



Summary of Air Traffic Hijack Events

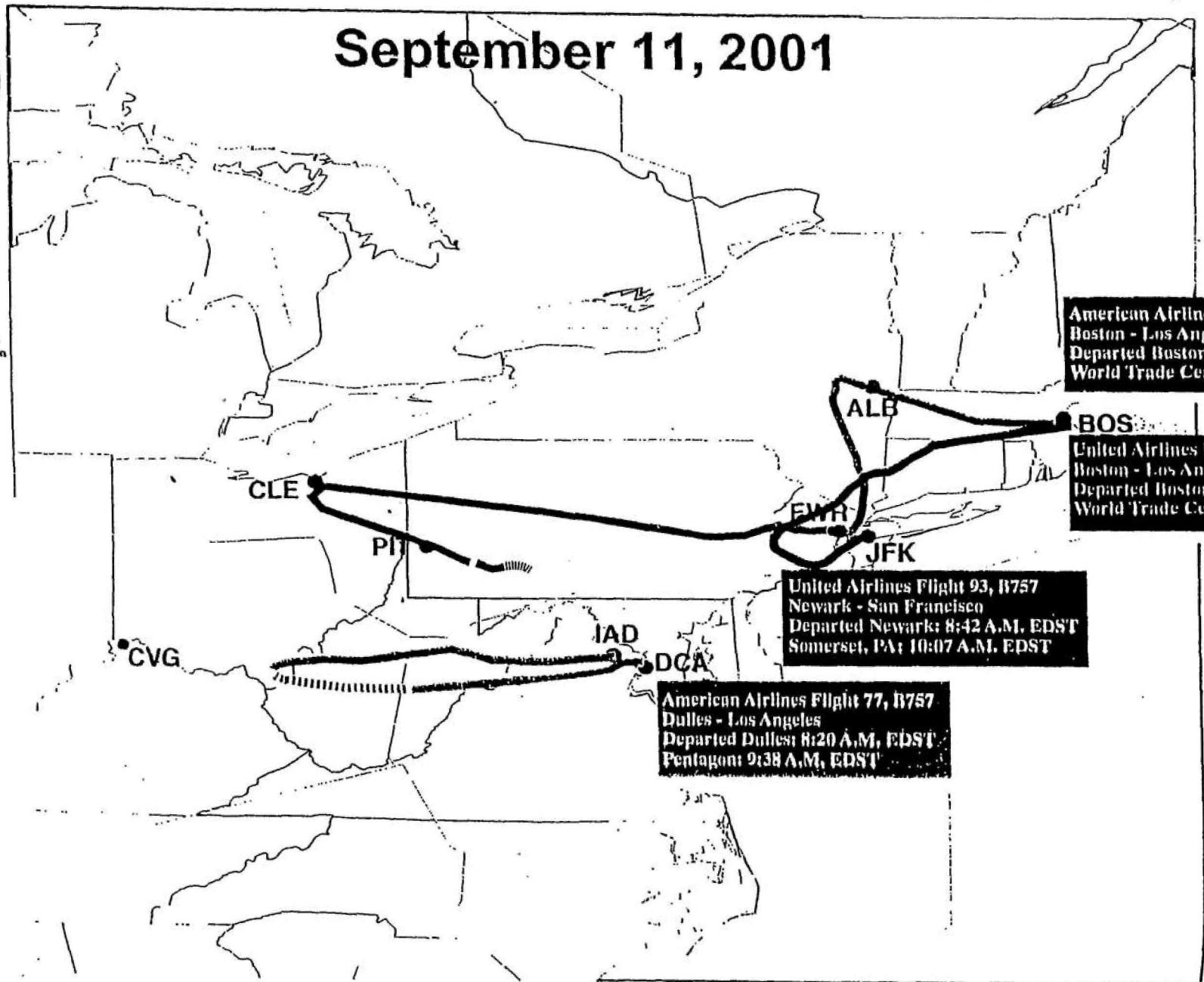
September 11, 2001

SOURCE: AAT-20



Department of Transportation
Federal Aviation Administration

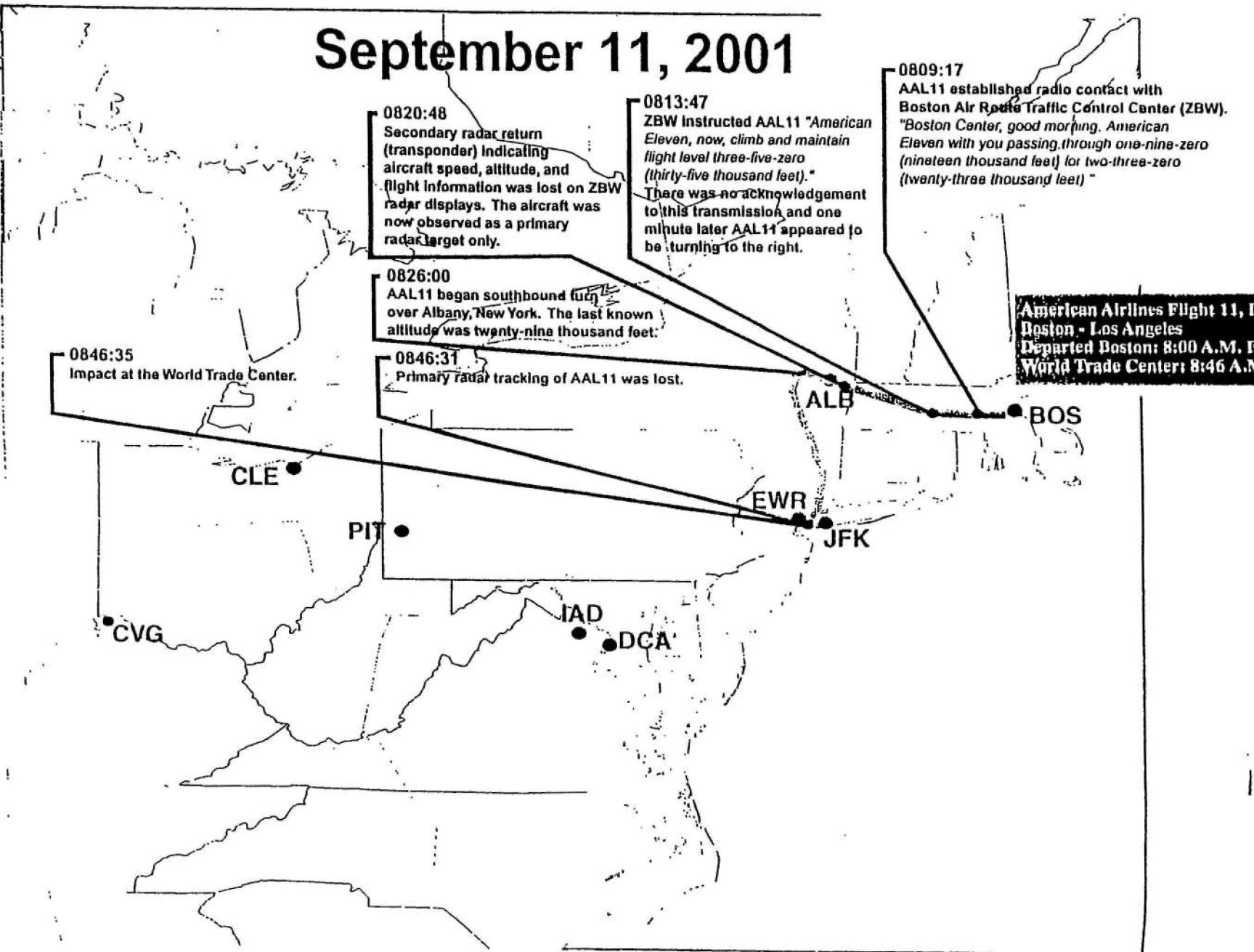
September 11, 2001





Department of Transportation
Federal Aviation Administration

September 11, 2001



American Airlines Flight 11 (AAL11)
Boston – Los Angeles
All times indicated are Eastern Daylight Savings Time

0756:27 Boston Airport Traffic Control Tower (BOS) issued taxi instructions to AAL11.

0800:00 AAL11 began takeoff roll, runway 4 Right, Boston Logan International Airport. All communications with BOS and with Boston Departure Control were routine and normal.

0809:17 AAL11 established radio contact with Boston Air Route Traffic Control Center (ZBW). "Boston Center, good morning, American Eleven with you passing through one-nine-zero (nineteen thousand feet) for two-three-zero (twenty-three thousand feet)."

0809:22 ZBW acknowledged AAL11. From this time until 0813:31 all communications appear routine and normal. The sector was responsible for six aircraft including AAL11. The flight was instructed to climb to twenty-eight thousand feet, subsequently to twenty-nine thousand feet, and issued a twenty degree turn for traffic.

0813:47 ZBW instructed AAL11 "American Eleven, now, climb and maintain flight level three-five-zero (thirty-five thousand feet)." There was no acknowledgement to this transmission. ZBW made two subsequent transmissions to AAL11, neither of which were acknowledged. Between 0813:47 and 0824:53, ZBW made several radio transmissions attempting to contact AAL11. None of the attempts were acknowledged.

0814:45 ZBW during intra-facility coordination recognized that AAL11 appeared to be turning right but had not acknowledged the climb clearance to thirty-five thousand feet and did not acknowledge any further radio transmissions.

0817:59 A brief unknown sound (possibly a scream) from an unknown origin was heard over the ZBW radio.

0820:48 Secondary radar return (transponder) indicating aircraft speed, altitude, and flight information was lost on ZBW radar displays. The aircraft was then observed as a primary radar target only.

0824:38 A radio transmission partially unintelligible stated, "we have some planes just stay quiet and you'll be ok we are returning to the airport" from an unknown origin was heard over the ZBW radio.

0824:57 A second radio transmission partially unintelligible stated "nobody move everything will be ok if you try to make any moves you'll endanger yourself and the airplane just stay quiet" – from an unknown origin was heard over the ZBW radio.

0825:00 ZBW began notification based on radio transmissions that a suspected hijack was in progress. The New England Regional Operations Center (ROC), the Air Traffic Control System Command Center (ATCSCC), and the ZBW facility manager were notified. Additionally, controllers began inter-facility coordination with New York Air Route Traffic Control Center (ZNY) of the possible hijacking. Coordination describes the last known altitude as twenty-nine thousand feet.

0826:00 AAL11 began southbound turn over Albany, New York. The last known altitude was twenty-nine thousand feet.

0833:59 A third radio transmission partially unintelligible stated "nobody move please we are going back to the airport don't try to make any stupid moves" – from an unknown origin was heard over the ZBW radio. AAL11 primary radar track was still southbound, and the last known altitude was twenty-nine thousand feet.

0834:00 ZBW contacted Cape Terminal Radar Approach Control (located on OTIS Air Force Base) and requested they notify the Military of the events regarding AAL11.

0835:00 New England Regional Operations Center advised Washington Operations Center (WOC) of the suspected hijack of AAL11.

0836:00 WOC notified Civil Aviation Security Intelligence (ACI), and conferred New England Regional Operations Center and the Air Traffic Control Systems Command Center (ATCSCC).

0838:00 ZBW notified New York Air Route Traffic Control Center (ZNY) of possible hijacking of AAL11.

0840:00 North East Air Defense Sector (NEADS) logs indicate they were notified by the Federal Aviation Administration of the events concerning AAL11.

0841:00 Military Command (VACAPES) issued scramble order on AAL11.

0844:00 ZNY facility manager notified New York Terminal Radar Approach Control (N90) of possible hijacking of AAL11. N90 began internal coordination of the aircraft's last known altitude (twenty-nine thousand feet) and southbound course.

0846:31 Primary radar tracking of AAL11 was lost.

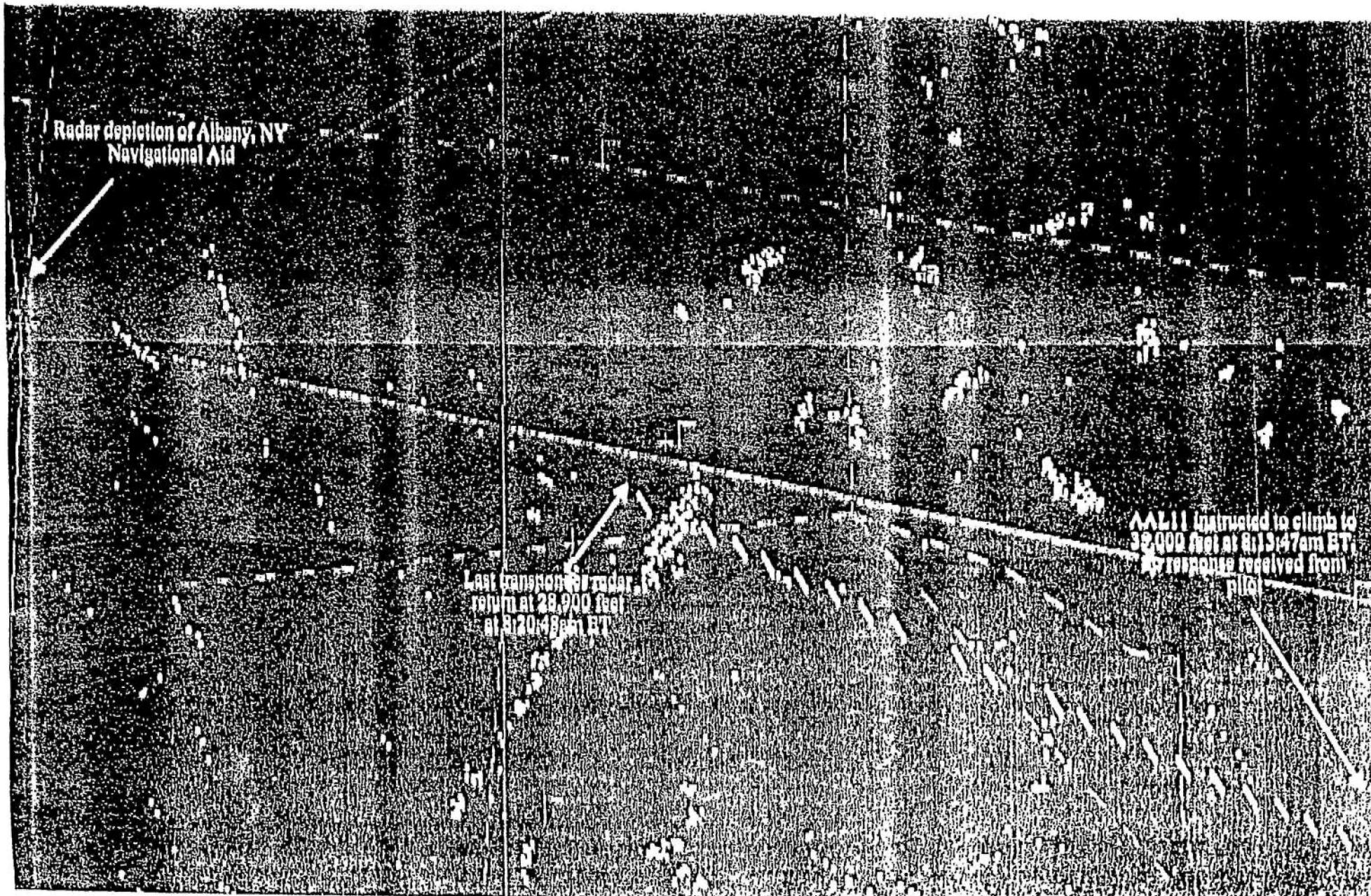
0846:35 Impact at World Trade Center.

0850:00 Washington Operations Center activated a Tactical Net at the request of Civil Aviation Security Intelligence (ACI).

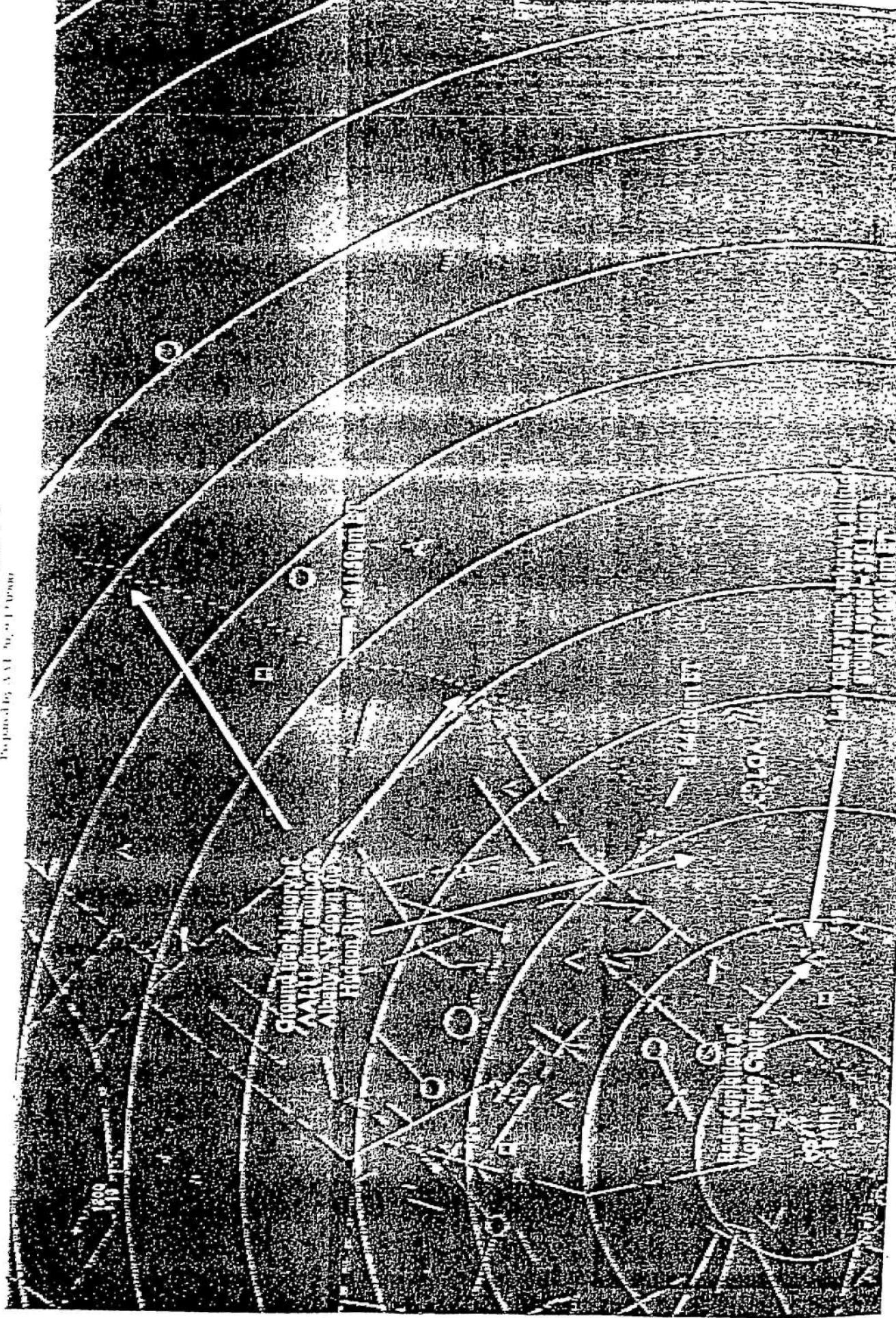
0850:00 Newark Airport Traffic Control Tower (EWR) advised N90 of possible aircraft crash into the World Trade Center.

AAT-20
September 17, 2001
6:30 AM

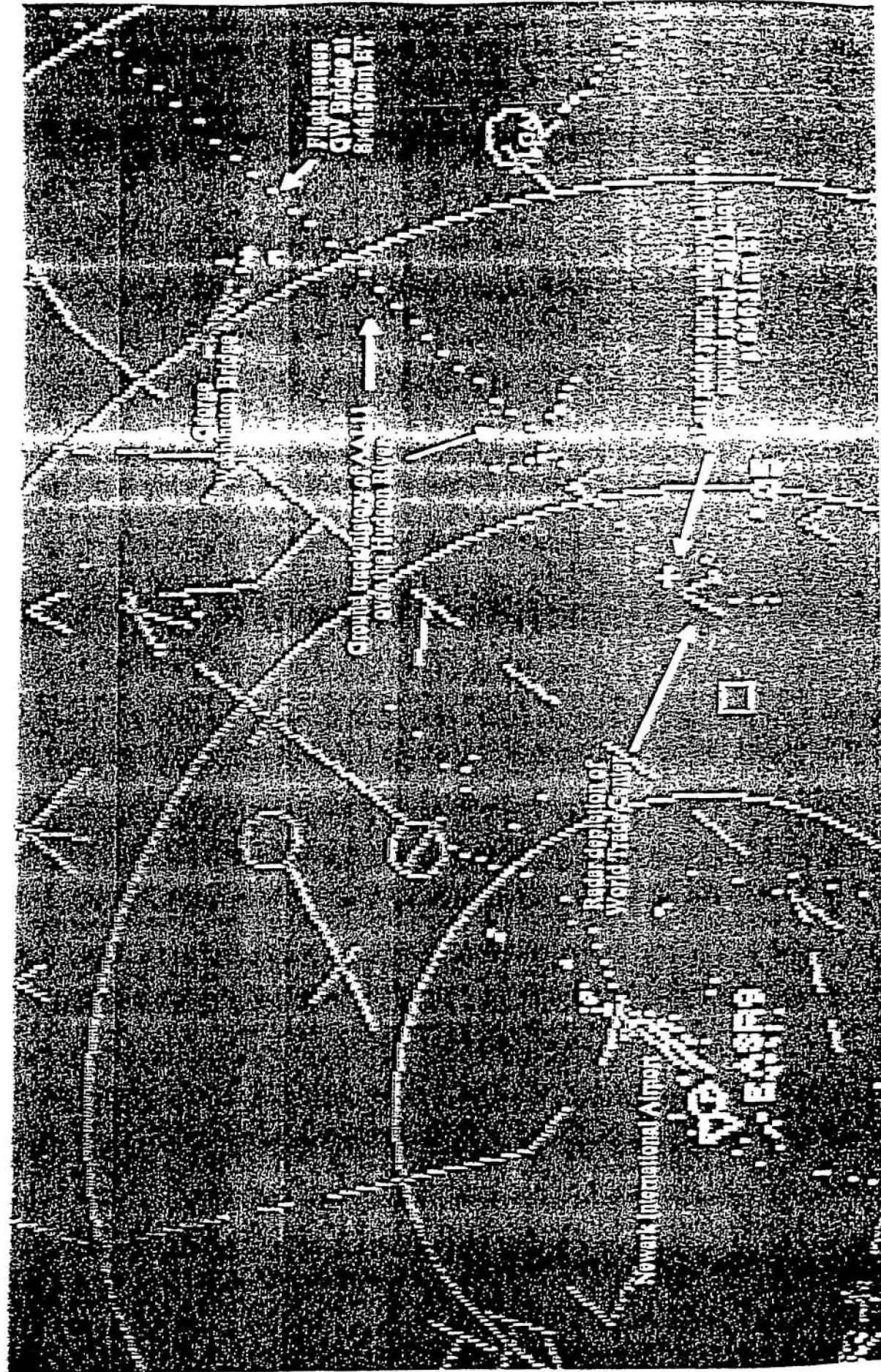
NAT 11 Boeing 767-200 Radar Track
By the Boston ARTC Long Range Radar
September 11, 2001, 8:46:58am ET
Prepared by NAT 91-0060



AAH 11, Boeing 767, Radar Track
By the Newark Airport, N.J. to Radar Monitor
September 11, 2001, 8:46 a.m. (Eastern)
Reproduced with permission



9:41 AM Boeing 767 Radar Track
By the Newark, NJ port ASR 9 Radar Antenna
September 11, 2001, 8:46:49am ET
Reproduced with permission



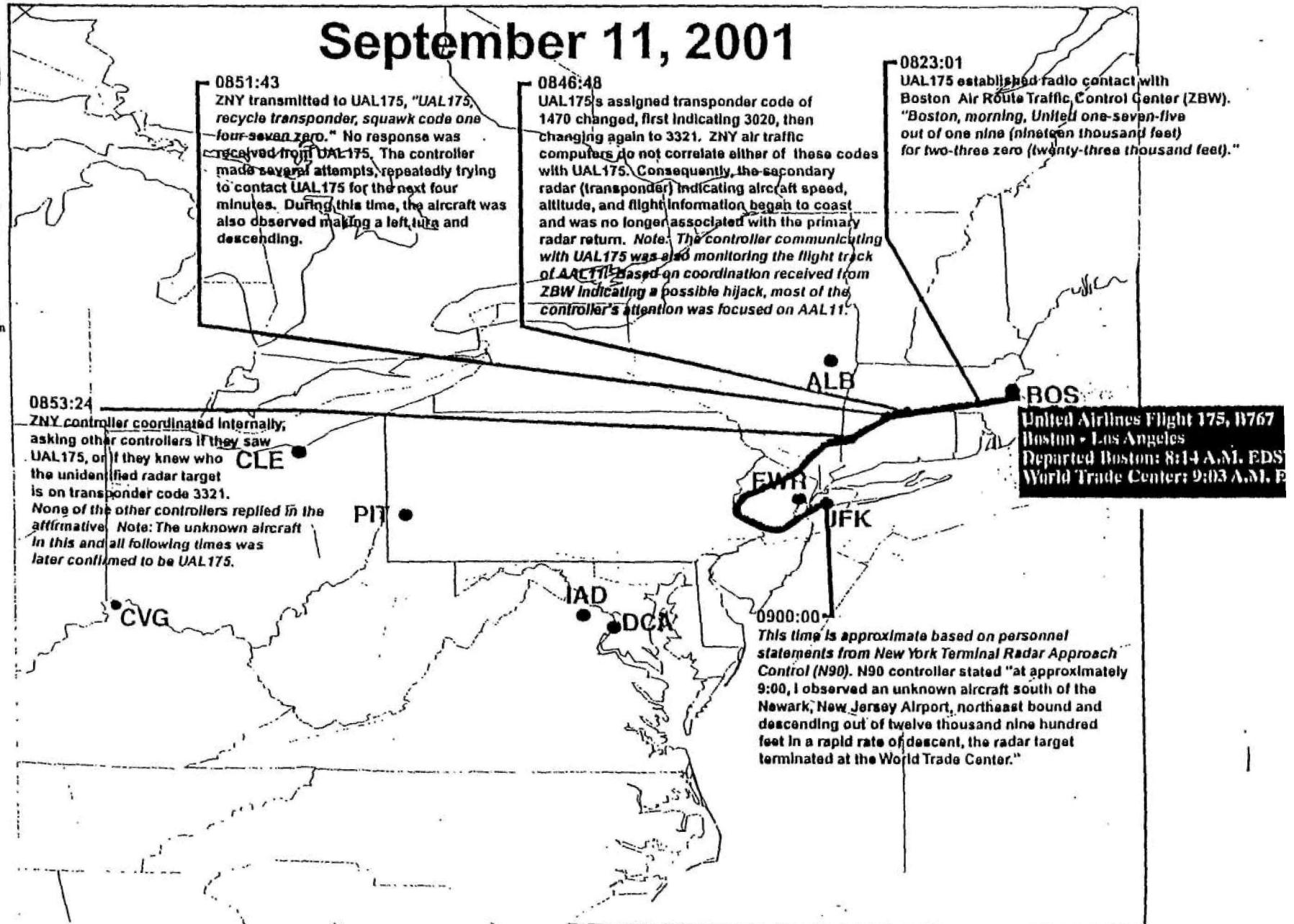
BOSTON AP "C with AAL 11 in
Sector 42 at 0000Z

四百三



Department of Transportation
Federal Aviation Administration

September 11, 2001



United Airlines Flight 175 (UAL175)

Boston – Los Angeles

All times indicated are Eastern Daylight Savings Time

0804:55 Boston Airport Traffic Control Tower (BOS) issued taxi instruction to UAL175.

0814:00 UAL175 began takeoff roll, runway 9, Boston Logan International Airport. All communications with BOS and with Boston Departure Control were routine and normal.

0823:01 UAL175 established radio contact with Boston Air Route Traffic Control Center (ZBW). "Boston, morning, United one-seven-five out of one-nine (nineteen thousand feet) for two-three-zero (twenty-three thousand feet)."

0823:06 ZBW acknowledged UAL175. At this point the controller was busy due to the events surrounding AAL11. The sector was responsible for six aircraft including UAL175. All communications between ZBW and UAL175 appear routine and normal. The flight was subsequently instructed to climb to flight level 310 (thirty-one thousand feet) and after radar handoff, was issued a frequency change to contact the New York Air Route Traffic Control Center (ZNY).

0840:32 UAL175 established radio contact with ZNY. "United one-seventy-five at flight level three-one-zero."

0840:37 ZNY acknowledged UAL 175. "United one-seventy-five, New York Center, roger."

0841:32 UAL175 transmitted to ZNY, "We figured we'd wait to go to your center, we heard a suspicious transmission on our departure out of Boston. Someone keyed the mike (initiated radio communications) and said everyone stay in your seats."

0841:51 ZNY replied, "okay, I'll pass that along." (The controller ensured UAL175's comments were forwarded to the Operations Manager.)

0844:05 US Air Flight 83 transmitted to ZNY "I just picked up an ELT (emergency locator transmitter) on 121.5 (emergency VHF frequency). It was brief, but it went off."

0844:09 ZNY acknowledged US Air Flight 83.

0846:48 UAL175's assigned transponder code of 1470 changed, first indicating 3020, then changing again to 3321. ZNY air traffic computers do not correlate either of these codes with UAL175. Consequently, the secondary radar return (transponder) indicating aircraft speed, altitude, and flight information began to coast and was no longer associated with the primary radar return. *Note: The controller communicating with UAL175 was also monitoring the flight track of AAL11. Based on coordination received from ZBW indicating a possible highjack, most of the controller's attention was focused on AAL11.*

0851:43 ZNY transmitted to UAL175, "UAL175, recycle transponder, squawk code one four seven zero." No response was received from UAL175. The controller made several attempts, repeatedly trying to contact UAL175 for the next four minutes. During this time, the aircraft was also observed making a left turn and descending.

0853:24 ZNY controller coordinated internally, asking other controllers if they saw UAL175, or if they knew who the unidentified radar target is on transponder code 3321. None of the other controllers replied in the affirmative. *Note: The unknown aircraft in this and all following times was later confirmed to be UAL175.*

0855:00 ZNY controller was busy trying to turn other aircraft away from the aircraft believed to be UAL175. The flight track of this aircraft had changed and was now headed southeast bound.

0855:00 *This time is approximate based on personnel statements from ZNY.* A controller-in-charge (CIC) advised the Operations Manager (OM) that she believed UAL175 was also hijacked. The OM advised the CIC that an aircraft had hit the World Trade Center. The CIC began coordinating with the controllers working position and one of the controllers stated that UAL175 appeared to heading "right towards the city." The CIC returned to the OM position and heard a request for military aircraft to scramble. UAL175 was observed in a rapid descent

0855:00 *This time is approximate based on personnel statements from ZNY.* A controller working a different position within ZNY reported that two aircraft, a Delta Airlines flight was given instructions to avoid an unknown aircraft. At about the same time a US Airways flight reported taking evasive action from an unknown aircraft. The controller reported that the unknown aircraft was now headed towards New York City. This controller, along with other controllers speculated that the unknown aircraft was an emergency and was heading for an airport to land.

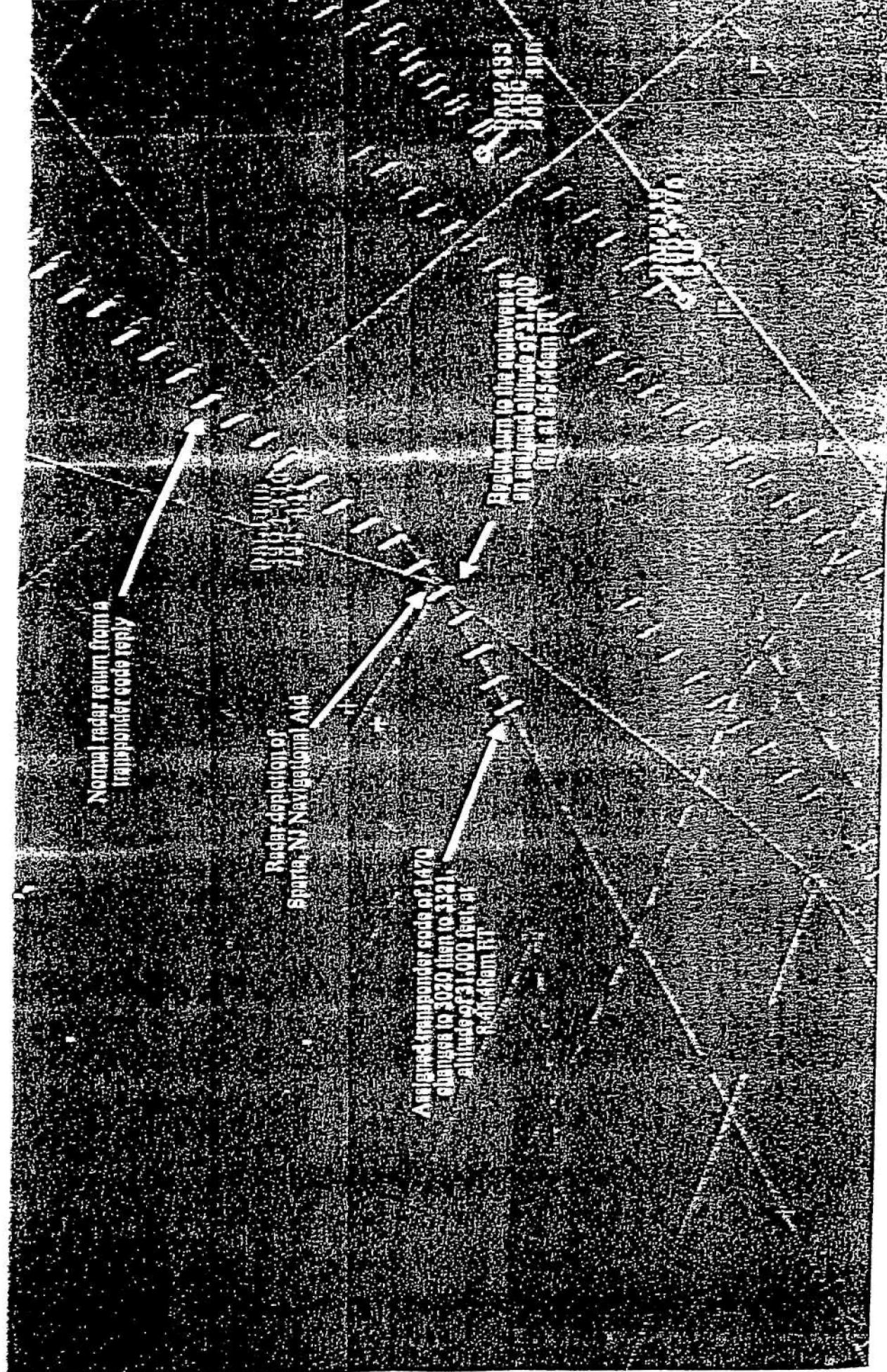
0900:00 *This time is approximate based on personnel statements from New York Terminal Radar Approach Control (N90). N90 controller stated "at approximately 9:00, I observed an unknown aircraft south of the Newark, New Jersey Airport, northeast bound and descending out of twelve thousand nine hundred feet in a rapid rate of descent, the radar target terminated at the World Trade Center."*

0903:14 Second Impact at World Trade Center.

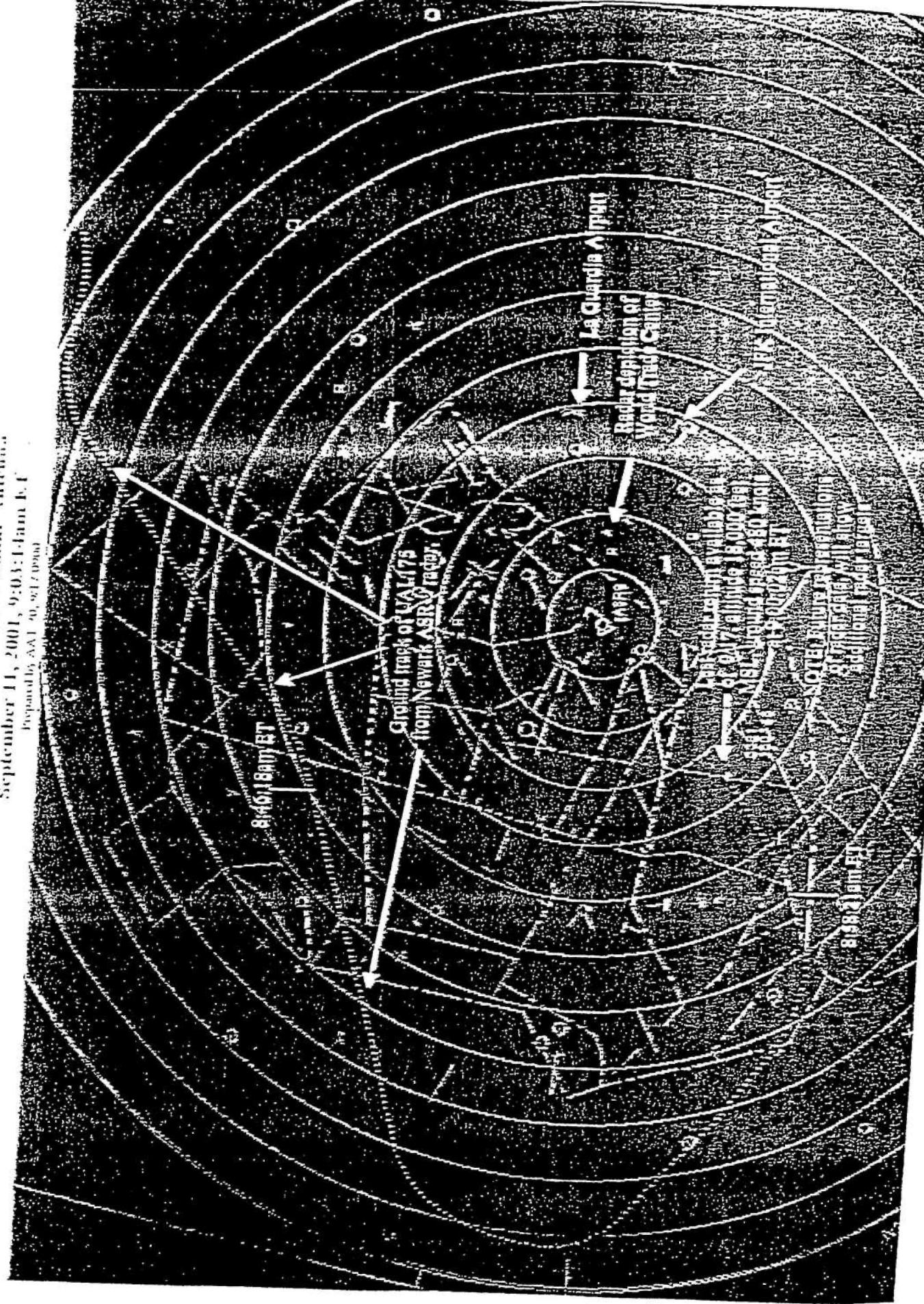
0905:00 North East Air Defense Sector (NEADS) logs indicate they were notified by the Federal Aviation Administration of the events concerning UAL175.

0905:00 N90 received notification from the Newark Airport Traffic Control Tower of a second aircraft striking the World Trade Center.

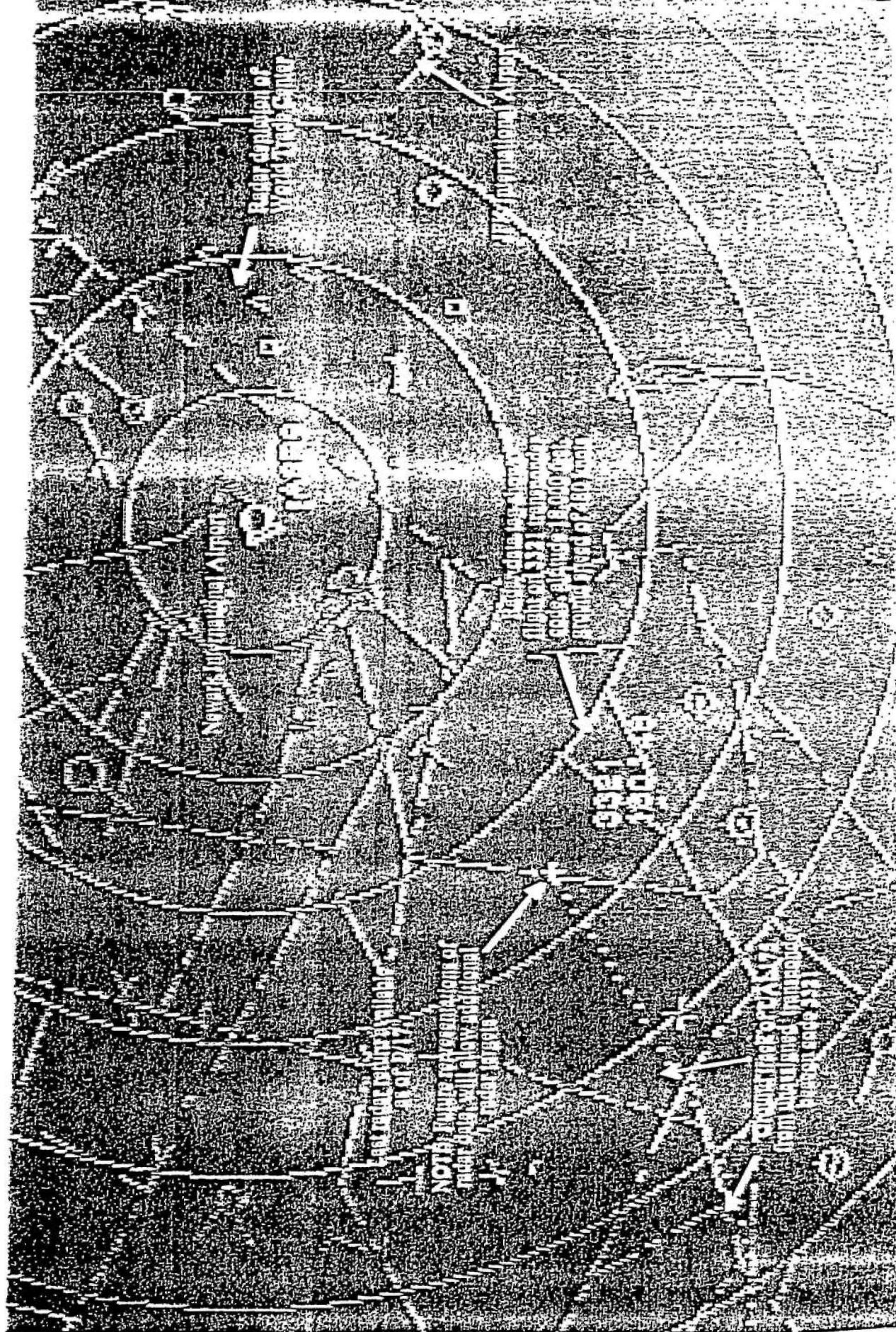
U-175, Boeing 767, Spotted Radar, Located
by the Glasscock ARTC Long Range Radar
September 11, 2001, 9:03:14 GMT
10,000 feet, 60.000 feet, 0.000 feet



UVA 175 Boeing 767
By Newark Airport ASR-6 Radar, Newark, New Jersey
September 11, 2001, 9:03:14am ET
Procedure ASR-6, 9/12/0000



01:54:07s, Radar on, Radar on
By the Newark Airport Radar, Newark, New Jersey
September 11, 2001, 9:03:13am ET
Reported by 911 operator





Department of Transportation
Federal Aviation Administration

September 11, 2001

0929:29
ZOB controller asked UAL93, "United ninety-three, verify three-five-zero (thirty-five thousand feet)." There was no reply. The ZOB controller made several attempts to contact UAL93 without receiving any acknowledgement.

0929:50
ZOB controller began moving other aircraft away from UAL93 due to lack of acknowledgement of any radio transmissions. Several other aircraft on the frequency confirmed unusual sounds of an unknown origin. The altitude of UAL93 again indicated thirty-five thousand feet.

0941:00 CLE
Secondary radar return (transponder) indicating aircraft speed, altitude, and flight information becomes intermittent and eventually failed on ZOB radar displays.

1007:00
In response to a request from a ZOB controller, N20VF, a Falcon Jet reported observing puffs of smoke in the vicinity of UAL93's last known position.

0842:00
UAL93 began takeoff roll, runway 4 left, Newark, New Jersey International Airport. All communications with EWR, with New York Departure Control, and with New York Air Route Traffic Control Center (ZNY) were routine and normal.

ALB BOS
EWR JFK

United Airlines Flight 93, B757
Newark - San Francisco
Departed Newark 8:42 A.M. EDST
Somerset, PA 10:07 A.M. EDST

United Airlines Flight 93 (UAL93)
Newark – San Francisco
All times indicated are Eastern Daylight Savings Time

0809:18 Newark Airport Traffic Control Tower (EWR) issued taxi instructions to UAL93.

0842:00 UAL93 began takeoff roll, runway 4 left, Newark New Jersey International Airport. All communications with EWR, with New York Departure Control, and with New York Air Route Traffic Control Center (ZNY) were routine and normal.

0924:30 UAL93 established radio contact with Cleveland Air Route Traffic Control Center (ZOB), "Good morning Cleveland, United ninety-three, three-five-oh (thirty-five thousand feet), intermittent light chop." The controller was busy, the sector was responsible for sixteen aircraft. Of these, several aircraft were being issued new routes based on the events occurring on the east coast. The controller did not reply to this initial transmission.

0925:14 UAL93 again reported on ZOB frequency, "United ninety-three checking three-five-oh (thirty-five thousand feet)." The controller replied, "United ninety-three, Cleveland, roger." *Note: This was the third radar sector within ZOB to communicate with UAL93. The communications with the previous sectors were routine and normal.*

0928:19 A radio transmission of unintelligible sounds of possible screaming or a struggle from an unknown origin was heard over the ZOB radio.

0928:54 A second radio transmission, mostly unintelligible, again with sounds of possible screaming or a struggle and a statement, "get out of here, get out of here" from an unknown origin was heard over the ZOB radio. At about this same time, the ZOB controller observed that UAL93 had descended, altitude indicated thirty-four thousand, three hundred feet.

0929:29 ZOB controller asked UAL93, "United ninety-three, verify three-five-zero (thirty-five thousand feet)." There was no reply. The ZOB controller made several attempts to contact UAL93 without receiving any acknowledgement.

0929:50 ZOB controller began moving other aircraft away from UAL93 due to the lack of acknowledgement of any radio transmissions. Several other aircraft on the frequency confirmed unusual sounds of an unknown origin. The altitude of UAL93 again indicated thirty-five thousand feet.

0931:57 A third radio transmission, mostly unintelligible, may sound like an individual out of breath, more unintelligible words and what sounds like "bomb on board" from an unknown origin was heard over the ZOB radio.

0932:31 A fourth radio transmission stated "did you hear that transmission that reported a bomb on board?" from an unknown origin was heard over the ZOB radio.

0934:50 ZOB controller observed that UAL93 was climbing without an air traffic control authorization. The aircraft had started a turn to the southeast, also without air traffic control authorization.

0938:47 UAL93 altitude indicated forty-thousand seven hundred feet.

0939:12 A fifth radio transmission, mostly unintelligible, stated words that may sound like "captain, ...bomb on board, ...our demands, ...remain quiet"

0939:59 ZOB notified Great Lakes Regional Operations Center of the screams and statements from unknown origin, believed to be UAL93.

0941:00 Secondary radar return (transponder) indicating aircraft speed, altitude, and flight information becomes intermittent and eventually failed on ZOB radar displays.

0944:31 ZOB controller notified Pittsburgh Terminal Radar Approach Control (PIT) North Arrival controller of the unanticipated turn, the loss of secondary radar return and lack of radio communications with UAL93. The ZOB controller also stated that the projected flight path would result in UAL93 passing in close proximity if not directly overhead the Greater Pittsburgh International Airport.

0945:00 PIT controller notified the Operations Supervisor of the events surrounding UAL93. The PIT controller also manually initiated radar tracking of the primary radar target.

0951:00 After determination by the PIT facility manager to evacuate, the controllers have completed coordination with adjacent facilities and the PIT facility has been evacuated.

0956:56 A small contingency of controllers (volunteers) returned to the facility and coordination with adjacent facilities pertaining to return to operational status is completed. The track of UAL93 was no longer visible on the PIT radar displays.

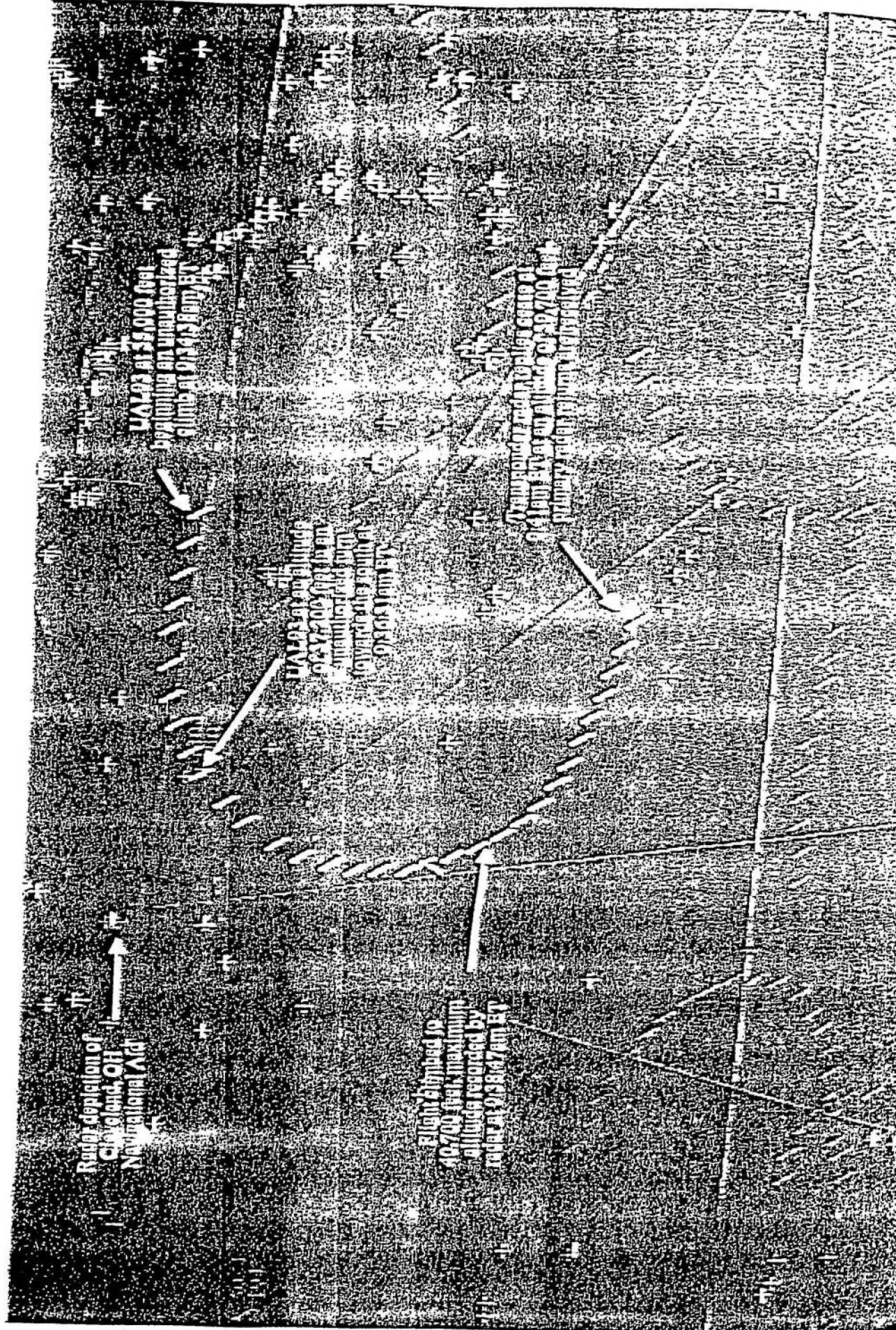
1000:00 *This time is approximate and is based on personnel statements from ZOB.* A ZOB controller's statement indicated that the pilot of a VFR aircraft reported sighting a United Airlines aircraft at approximately eight thousand feet in the vicinity of the Latrobe, Pennsylvania airport. The pilot also reported that the United Airlines aircraft's landing gear was down, the wings were rocking, and that the aircraft appeared to be in distress.

1004:00 *This time is approximate and is based on personnel statements from ZOB. A ZOB controller statement indicated that UAL93's primary radar target terminated in the vicinity of Somerset, Pennsylvania.*

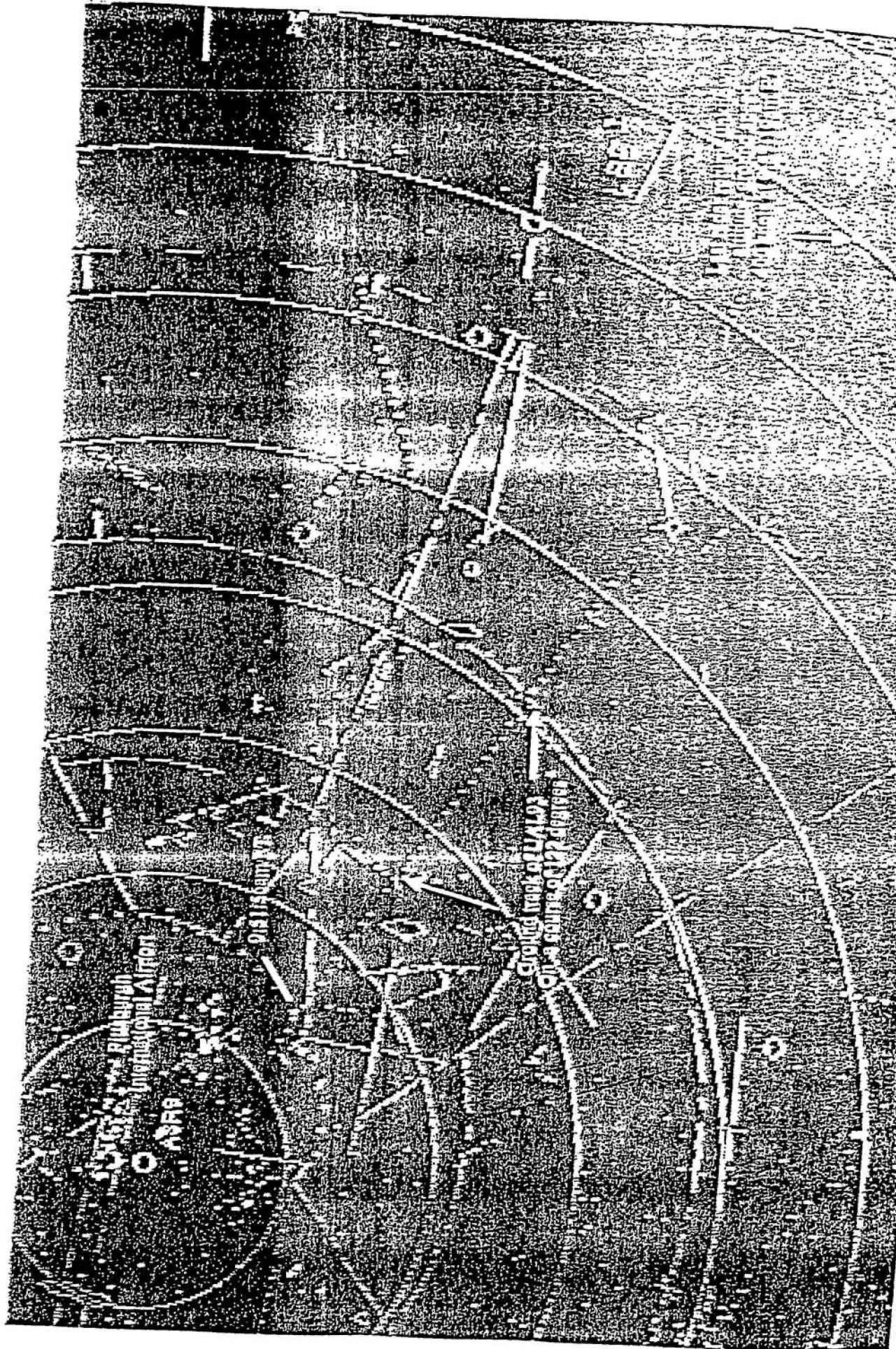
1007:00 **In response to a request from a ZOB controller, N20VF, a Falcon Jet reported observing puffs of smoke in the vicinity of UAL93's last known position.**

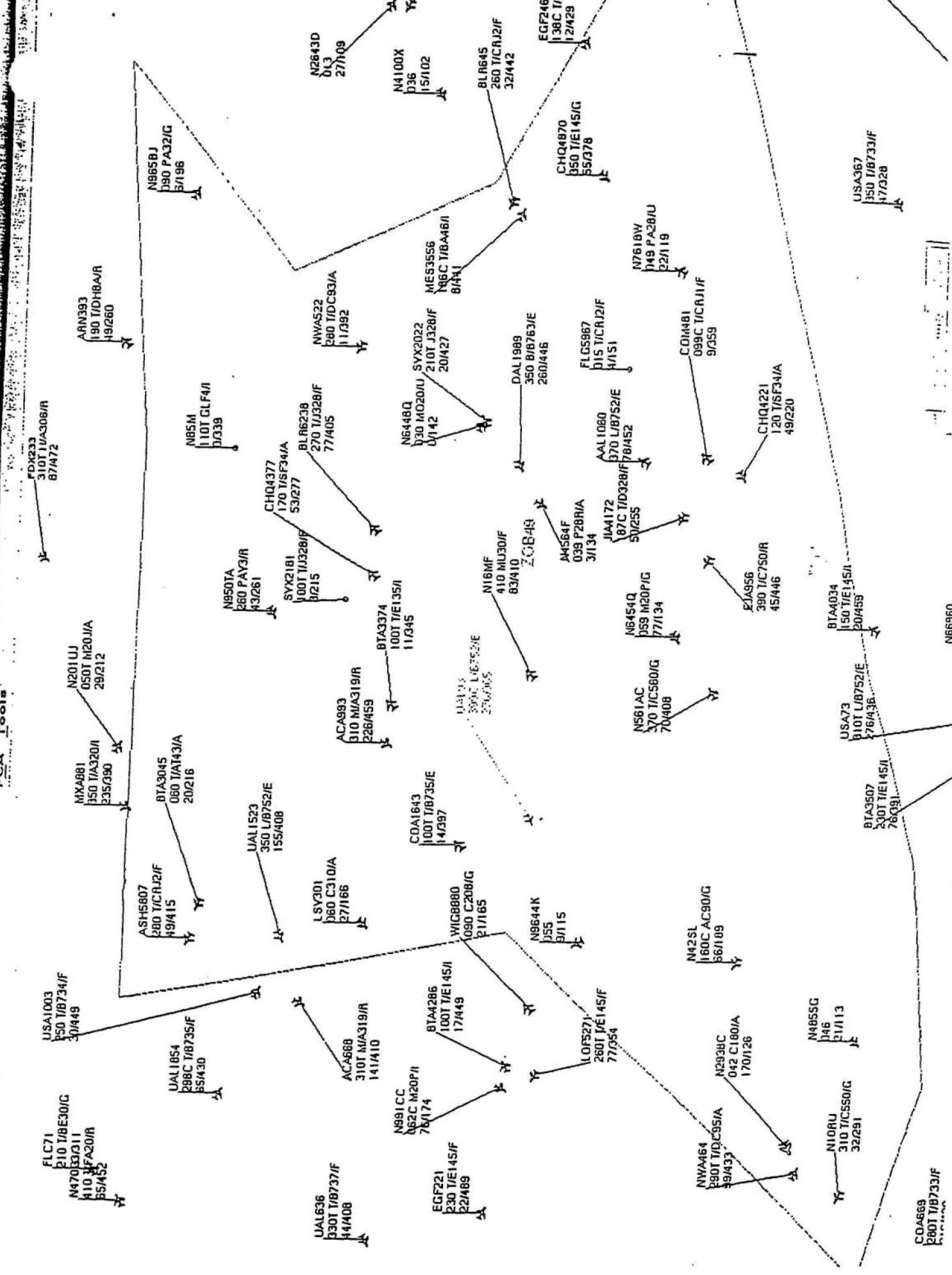
1041:00 After receiving a telephone call from the Somerset, Pennsylvania police department stating that several "911" telephone calls had been received reporting an aircraft accident, a ZOB operations manager made official notification to Great Lakes Regional Operations Center. *Note: Although this is the officially documented notification time, FAA officials were aware of the accident as these events were reported as they occurred on a critical event teleconference established at the Federal Aviation Administration headquarters building.*

UAV 03, Boeing 7
After Crash
By the Cleveland AIRC - One Range Radar
September 11, 2001, 10:50 am ET
Pilot John Weller (90917964)



By the Pittsburgh Weather Radar Team
Sept 11, 2001, 10:00am ET
Report by: www.wcradar.com

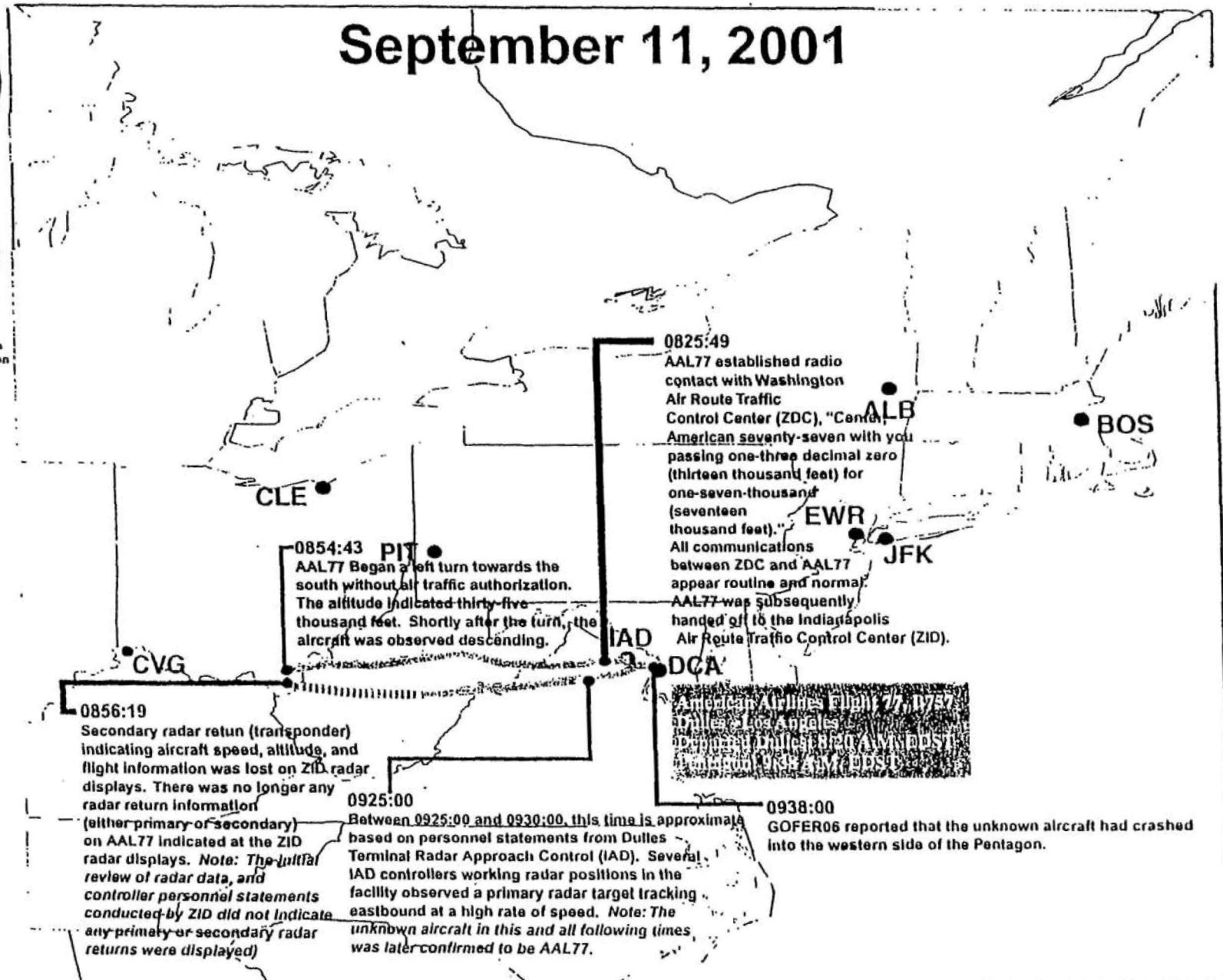






Department of Transportation
Federal Aviation Administration

September 11, 2001



American Airlines Flight 77 (AAL77)
Washington Dulles - Los Angeles
All times indicated are Eastern Daylight Savings Time

0812:29 Dulles Airport Traffic Control Tower (IAD) issued taxi instructions to AAL77.

0820:00 AAL77 began takeoff roll, runway 30, Washington Dulles International Airport. All communications with IAD and with Dulles Departure Control were routine and normal.

0825:49 AAL77 established radio contact with Washington Air Route Traffic Control Center (ZDC), "Center, American seventy-seven with you passing one-three decimal zero (thirteen thousand feet) for one-seven-thousand (seventeen thousand feet)." All communications between ZDC and AAL77 appear routine and normal. AAL77 was subsequently handed off to the Indianapolis Air Route Traffic Control Center (ZID).

0840:14 AAL established radio contact with ZID. "Center, American seventy-seven with you, level three thirty (thirty-three thousand feet).

0840:16 ZID acknowledged, "American seventy-seven, Indy center, roger, squawk three-seven-four-three." (Squawk is a control instruction to change the transponder setting within the aircraft). AAL77 was subsequently instructed to climb to thirty-five thousand feet and later cleared to navigate direct to the Falmouth navigational aid. When ZID acknowledged AAL77, the sector was responsible for fourteen aircraft; additionally four aircraft were in handoff status to this sector.

0850:51 AAL77 acknowledged the clearance to Falmouth. This was the last radio communication with this flight.

0854:43 AAL77 began a left turn towards the south without air traffic authorization. The altitude indicated thirty-five thousand feet. Shortly after the turn, the aircraft was observed descending.

0856:19 Secondary radar return (transponder) indicating aircraft speed, altitude, and flight information is lost on ZID radar displays. There was no longer any radar return information (either primary or secondary) on AAL77 indicated at the ZID radar displays. *Note: The initial review of radar data, and controller personnel statements conducted by ZID did not indicate any primary or secondary radar returns were displayed.*

0856:32 ZID controller attempted to contact AAL77, "American seventy-seven, Indy." There was no acknowledgement. ZID also tried to communicate with AAL77 through American Airlines company radios.

0858:14 ZID also made several attempts to contact AAL77 through American Airlines company dispatch.

0859:00 ZID controllers began coordinating with other controllers to protect the airspace and altitude of AAL77's filed route of flight.

0909:00 ZID notified Great Lakes Regional Operations Center a possible aircraft accident of AAL77 due to the simultaneous loss of radio communications and radar identification.

0915:00 *This time is approximate based on personnel statements from ZID.* The ZID Operations Manager requested that the Traffic Management personnel notify Air Force Search and Rescue of the missing and possibly downed aircraft. The Operations Manager also contacted the West Virginia State Police advising them of a possible downed aircraft and asks if they have any reports of a downed aircraft.

0920:00 *This time is approximate based on personnel statements from ZID.* The ZID Operations Manager contacted the Chicago Air Route Traffic Control Center (ZAU) and advised the ZAU Operations Manager of his concern that AAL77 may have been hijacked and that he (ZAU Operations Manager) should be on the look out (based on events occurring in New York)..

0924:00 Great Lakes Regional Operations Notified Washington Operations Center of the simultaneous loss of radio communications and radar identification.

0925:00 *Between 0925:00 and 0930:00, this time is approximate based on personnel statements from Dulles Terminal Radar Approach Control (IAD).* Several IAD controllers working radar positions in the facility observed a primary radar target tracking eastbound at a high rate of speed. *Note: The unknown aircraft in this and all following times was later confirmed to be AAL77.*

0933:00 *This time is approximate based on personnel statements from IAD.* An Operations Supervisor at IAD advised the White House Office of the United States Secret Service of an unknown aircraft heading in the direction of the White House, fast moving. Meanwhile, a controller was providing the same information to controllers working at the Ronald Reagan Washington National Airport Traffic Control Tower (DCA). The IAD Operations Supervisor also provided continuous updates on a critical event teleconference established at the Federal Aviation Administration Headquarters building.

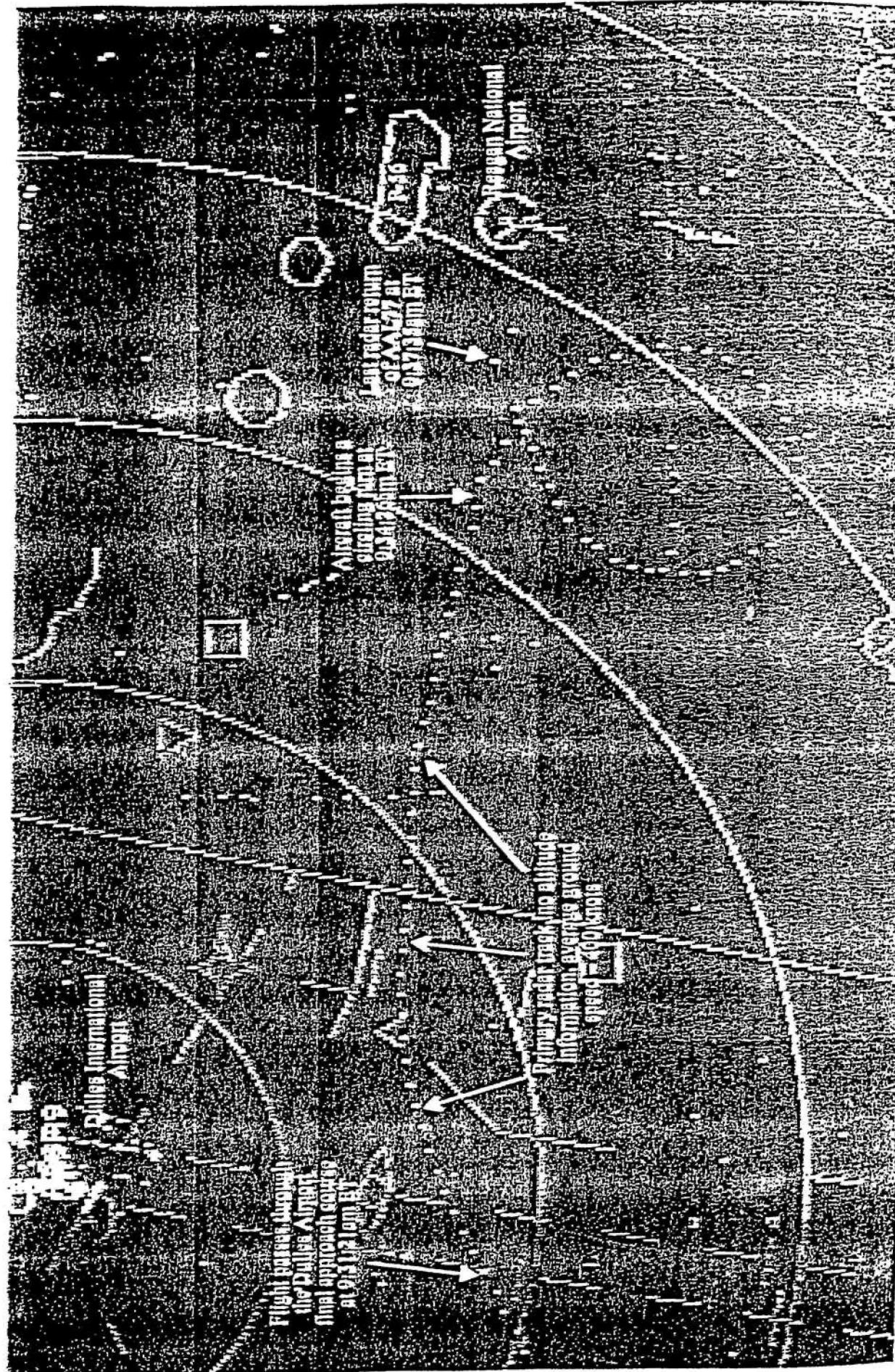
0933:00 *This time is approximate based on personnel statements from DCA.* An Operations Supervisor at DCA was advised by IAD of the unknown aircraft. The Operations Supervisor at DCA immediately notified the White House Office of the United States Secret Service of the unknown aircraft's location and provided continuous updates.

0936:00 Personnel at DCA issued traffic advisories on the unknown aircraft to a military C130 aircraft that had departed Andrews Air Force Base. When the C130 aircraft (GOFER06) reported the unidentified aircraft in sight, the pilot was instructed to follow the unknown aircraft.

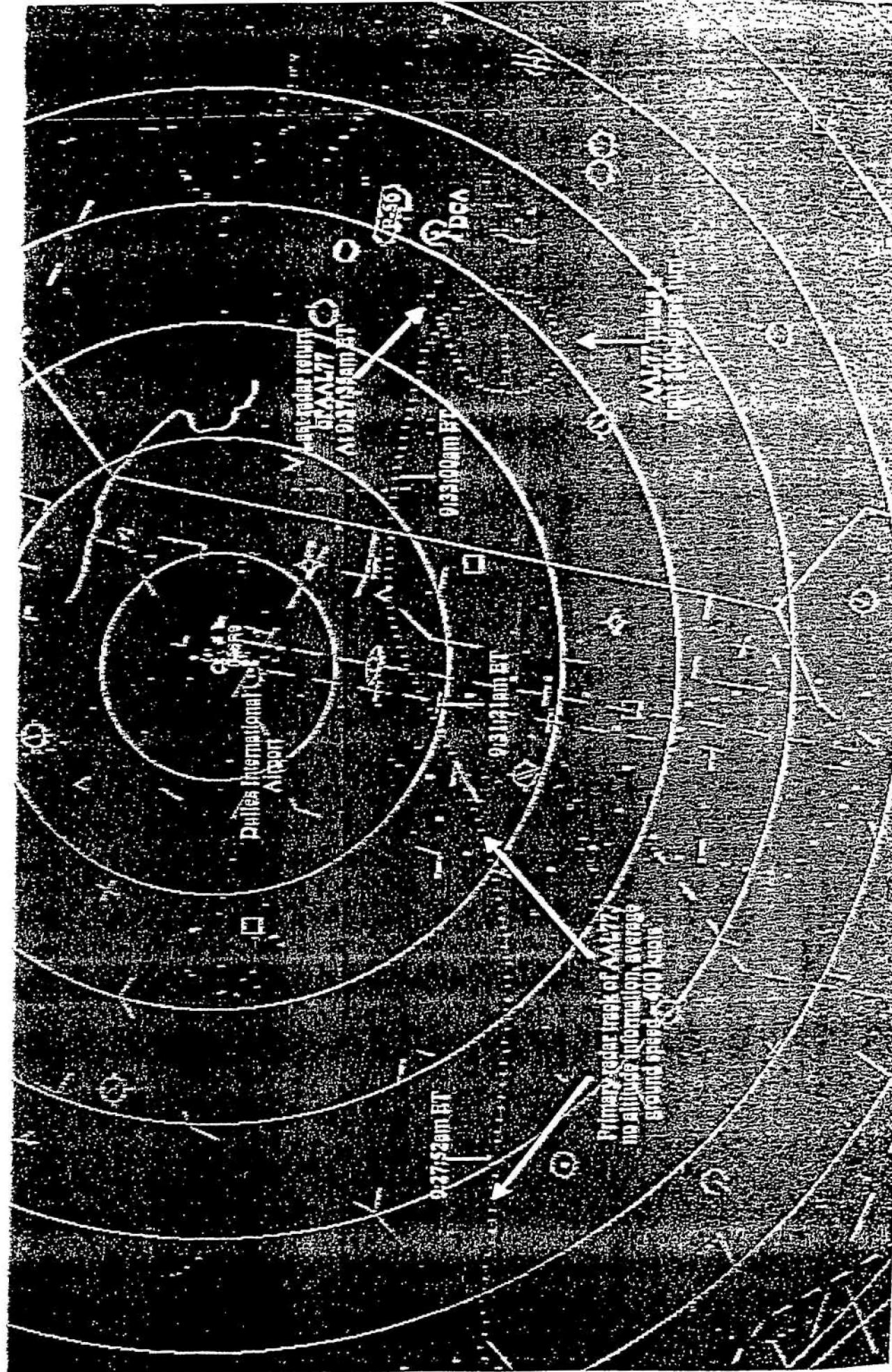
0938:00 GOFER06 reported that the unknown aircraft had crashed into the western side of the Pentagon.

AAT-20
September 17, 2001
6:30 AM

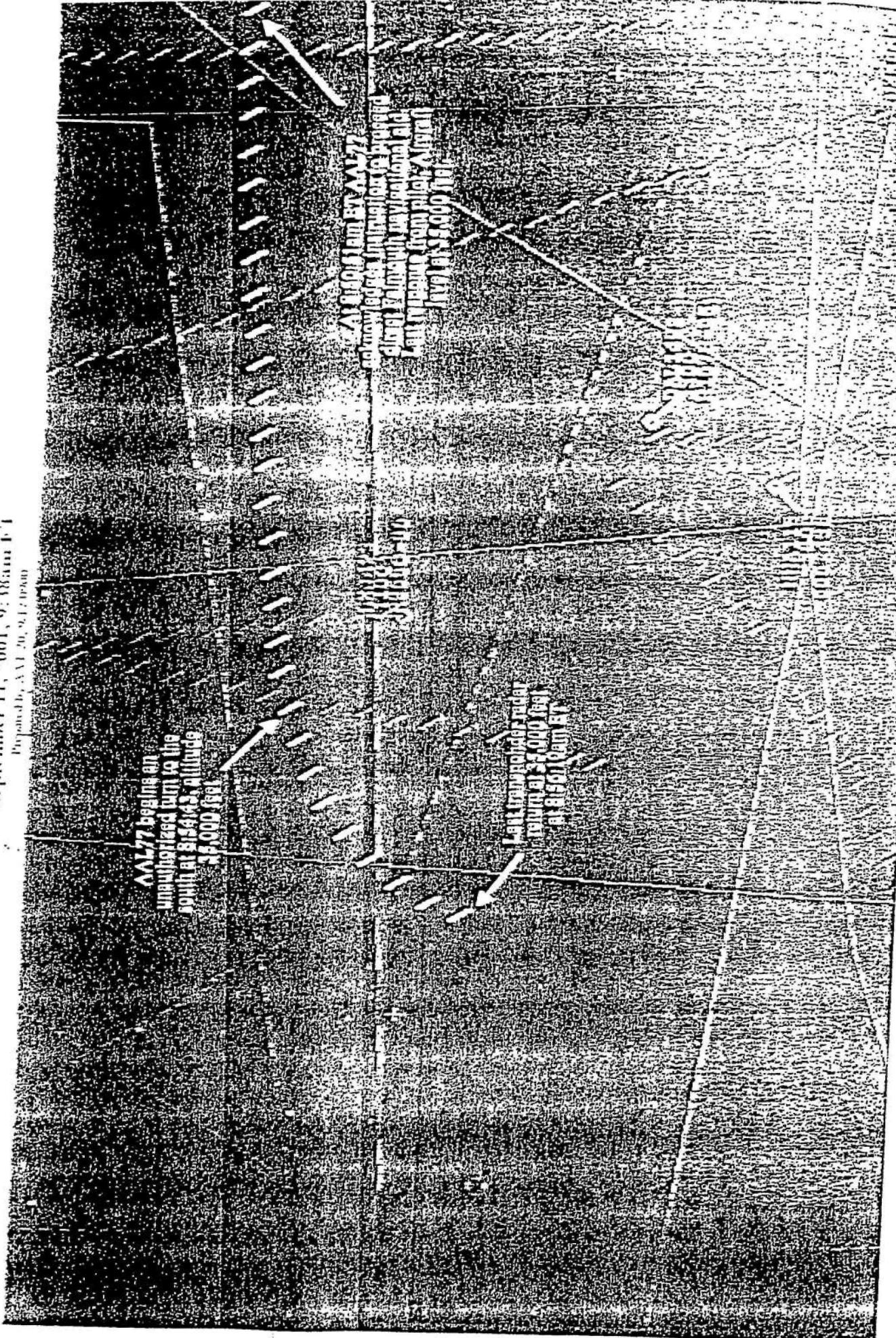
ANALYSIS
By the Dulles International Airport Radar Team
September 11, 2001, 0830am ET
Prepared by: [redacted] on [redacted]



NTSB Boeing 777
By the Dulles International Airport NEXRAD radar antenna
September 11, 2001, 01:30am ET
Prepared by NTSB, 9/11 Commission



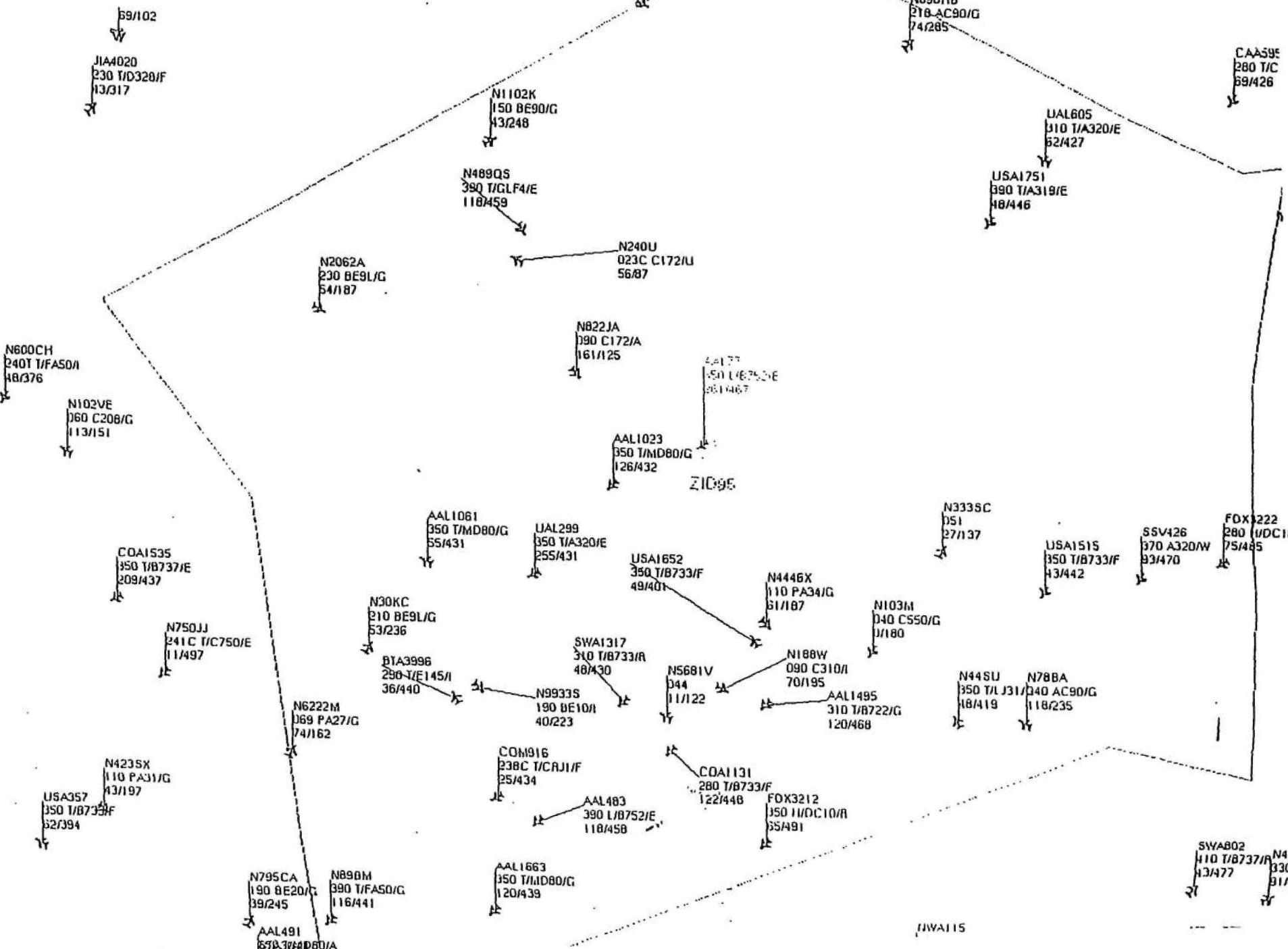
W.M. C. Boeing, "A Radar and
by the Indianapolis Air Corp," *Radar*,
September 11, 1901, 9; *Wain P. I.*
Papendick, *AAC 30, 9/1901*.



INDIANA
Sector 95 a

19 AIRCO with AAL 77 in
8am ET

PCU Total
7840W
30 PA26/U
1/121



JWA115



Department of Transportation
Federal Aviation Administration

September 11, 2001

0929:29
ZOB controller asked UAL93, "United ninety-three, verify three-five-zero (thirty-five thousand feet)."
There was no reply. The ZOB controller made several attempts to contact UAL93 without receiving any acknowledgement.

0929:50
ZOB controller began moving other aircraft away from UAL93 due to lack of acknowledgement of any radio transmissions. Several other aircraft on the frequency confirmed unusual sounds of an unknown origin. The altitude of UAL93 again indicated thirty-five thousand feet.

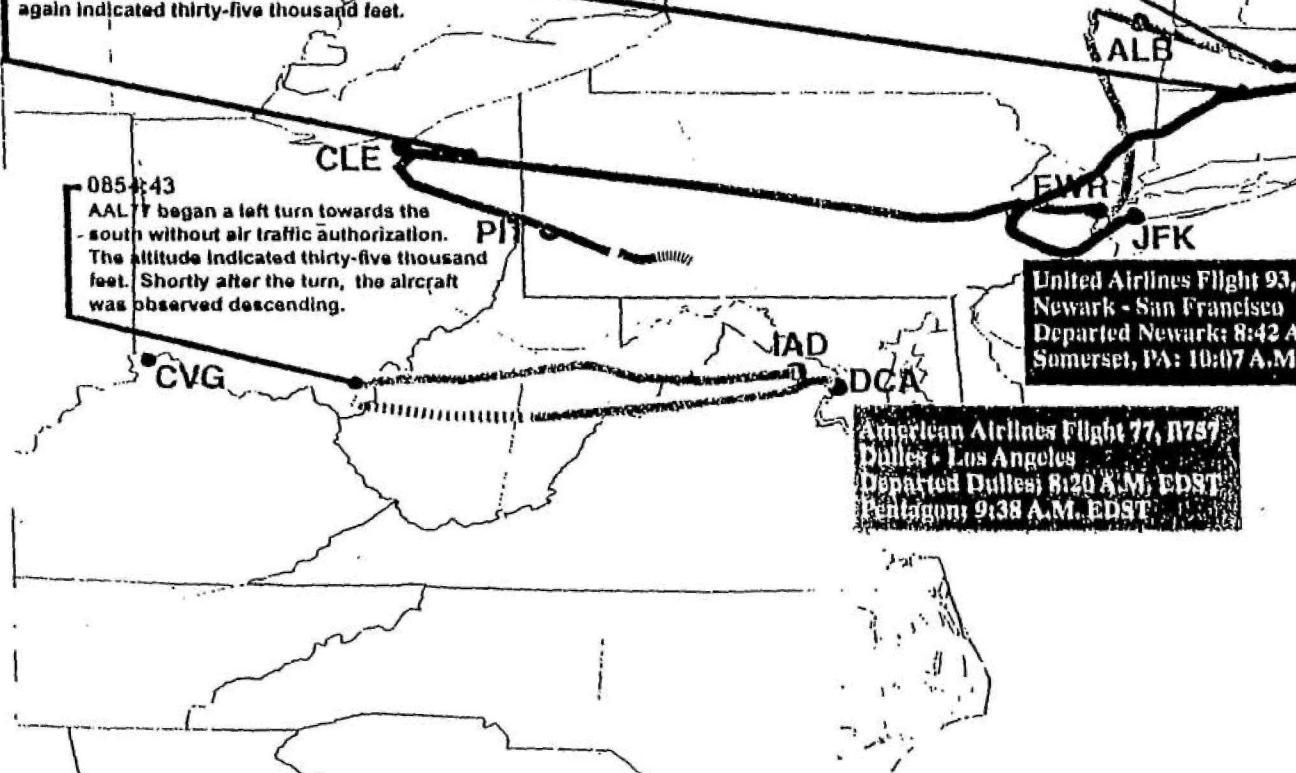
0846:48
UAL175's assigned transponder code of 1470 changed, first indicating 3020, then changing again to 3321. ZNY air traffic computers do not correlate either of these codes with UAL175. Consequently, the secondary radar (transponder) indicating aircraft speed, altitude, and flight information began to coast and was no longer associated with the primary radar return. Note: The controller communicating with UAL175 was also monitoring the flight track of AAL11. Based on coordination received from ZBW indicating a possible hijack, most of the controller's attention was focused on AAL11.

0813:47
ZBW instructed AAL11 "American Eleven, now, climb and maintain flight level three-five-zero (thirty-five thousand feet)."
There was no acknowledgement to this transmission and one minute later AAL11 appears to be turning to the right.

American Airlines Flight 11, B767
Boston - Los Angeles
Departed Boston: 8:00 A.M. EDST
World Trade Center: 8:46 A.M. EDST

BOS

United Airlines Flight 175, B767
Boston - Los Angeles
Departed Boston: 8:14 A.M. EDST
World Trade Center: 9:03 A.M. EDST



United Airlines Flight 93, B757
Newark - San Francisco
Departed Newark: 8:42 A.M. EDST
Somerset, PA: 10:07 A.M. EDST

American Airlines Flight 77, B757
Dallas - Los Angeles
Departed Dulles: 8:20 A.M. EDST
Washington: 9:38 A.M. EDST

TIME	AMERICAN AIRLINES FLIGHT	UNITED AIRLINES FLIGHT 175	UNITED AIRLINES FLIGHT 93	AMERICAN AIRLINES FLIGHT 77
0756:27	Boston Airport Traffic Control Tower (BOS) issued taxi instructions to AAL11.			
0800:00	AAL11 began takeoff roll, runway 4 Right, Boston Logan International Airport.			
0804:55		Boston Airport Traffic Control Tower (BOS) issued taxi instruction to UAL175.		
0809:17	AAL11 established radio contact with Boston Air Route Traffic Control Center (ZBW). "Boston Center, good morning, American Eleven with you passing through one-nine-zero (nineteen thousand feet) for two-three-zero (twenty-three thousand feet)." 			
0809:18			Newark Airport Traffic Control Tower (EWR) issued taxi instructions to UAL93.	
0809:22	ZBW acknowledged AAL11. From this time until 0813:31 all communications appear routine and normal. The sector was responsible for six aircraft including AAL11. The flight was instructed to climb to twenty-eight thousand feet, subsequently to twenty-nine thousand feet, and issued a twenty degree turn for traffic.			

TIME	AMERICAN AIRLINES FLIGHT	UNITED AIRLINES FLIGHT 175	UNITED AIRLINES FLIGHT 93	AMERICAN AIRLINES FLIGHT 77
0812:29				Dulles Airport Traffic Control Tower (IAD) issued taxi instructions to AAL77.
0813:47	ZBW instructed AAL11 "American Eleven, now, climb and maintain flight level three-five-zero (thirty-five thousand feet)." There was no acknowledgement to this transmission. ZBW made two subsequent transmissions to AAL11, neither of which were acknowledged. Between 0813:47 and 0824:53, ZBW made several radio transmissions attempting to contact AAL11. None of the attempts were acknowledged.			
0814:00		UAL175 began takeoff roll, runway 9, Boston Logan International Airport. All communications with BOS and with Boston Departure Control were routine and normal.		
0814:45	ZBW during intra-facility coordination recognized that AAL11 appeared to be turning right but had not acknowledged the climb clearance to thirty-five thousand feet and did not acknowledge any further radio transmissions.			

TIME	AMERICAN AIRLINES FLIGHT	UNITED AIRLINES FLIGHT 175	UNITED AIRLINES FLIGHT 93	AMERICAN AIRLINES FLIGHT 77
0817:59	A brief unknown sound (possibly a scream) from an unknown origin was heard over the ZBW radio.			
0820:00				AAL77 began takeoff roll, runway 30, Washington Dulles International Airport. All communications with IAD and with Dulles Departure Control were routine and normal.
0820:48	Secondary radar return (transponder) indicating aircraft speed, altitude, and flight information was lost on ZBW radar displays. The aircraft was then observed as a primary radar target only.			
0823:01		UAL175 established radio contact with Boston Air Route Traffic Control Center (ZBW). "Boston, morning, United one-seven-five out of one-nine (nineteen thousand feet) for two-three-zero (twenty-three thousand feet)."		

TIME	AMERICAN AIRLINES FLIGHT	UNITED AIRLINES FLIGHT 175	UNITED AIRLINES FLIGHT 93	AMERICAN AIRLINES FLIGHT 77
0823:06		ZBW acknowledged UAL175. At this point the controller was busy due to the events surrounding AAL11. The sector was responsible for six aircraft including UAL175. All communications between ZBW and UAL175 appear routine and normal. The flight was subsequently instructed to climb to flight level 310 (thirty-one thousand feet) and after radar handoff, was issued a frequency change to contact the New York Air Route Traffic Control Center (ZNY).		
0824:38				A radio transmission partially unintelligible stated, "we have some planes just stay quiet and you'll be ok we are returning to the airport" from an unknown origin was heard over the ZBW radio.
0824:57				A second radio transmission partially unintelligible stated "nobody move everything will be ok if you try to make any moves you'll endanger yourself and the airplane just stay quiet" – from an unknown origin was heard over the ZBW radio.

TIME	AMERICAN AIRLINES FLIGHT	UNITED AIRLINES FLIGHT 175	UNITED AIRLINES FLIGHT 93	AMERICAN AIRLINES FLIGHT 77
0825:00	ZBW began notification based on radio transmissions that a suspected hijack was in progress. The New England Regional Operations Center (ROC), the Air Traffic Control System Command Center (ATCSCC), and the ZBW facility manager were notified. Additionally, controllers began inter-facility coordination with New York Air Route Traffic Control Center (ZNY) of the possible hijacking. Coordination describes the last known altitude as twenty-nine thousand feet.			
0825:49				AAL77 established radio contact with Washington Air Route Traffic Control Center (ZDC), "Center, American seventy-seven with you passing one-three decimal zero (thirteen thousand feet) for one-seven-thousand (seventeen thousand feet)." All communications between ZDC and AAL77 appear routine and normal. AAL77 was subsequently handed off to the Indianapolis Air Route Traffic Control Center (ZID).
0826:00	AAL11 began southbound turn over Albany, New York. The last known altitude was twenty-nine thousand feet.			

TIME	AMERICAN AIRLINES FLIGHT	UNITED AIRLINES FLIGHT 175	UNITED AIRLINES FLIGHT 93	AMERICAN AIRLINES FLIGHT 77
0833:59	A third radio transmission partially unintelligible stated "nobody move please we are going back to the airport don't try to make any stupid moves" – from an unknown origin was heard over the ZBW radio. AAL11 primary radar track was still southbound, and the last known altitude was twenty-nine thousand feet.			
0834:00	ZBW contacted Cape Terminal Radar Approach Control (located on OTIS Air Force Base) and requested they notify the Military of the events regarding AAL11.			
0835:00	New England Regional Operations Center advised Washington Operations Center (WOC) of the suspected hijack of AAL11.			
0836:00	WOC notified Civil Aviation Security Intelligence (ACI), and conferred New England Regional Operations Center and Air Traffic Control Systems Command Center (ATCSCC).			
0838:00	ZBW notified New York Air Route Traffic Control Center (ZNY) of possible hijacking of AAL11.			

TIME	AMERICAN AIRLINES FLIGHT	UNITED AIRLINES FLIGHT 175	UNITED AIRLINES FLIGHT 93	AMERICAN AIRLINES FLIGHT 77
0840:00	North East Air Defense Sector (NEADS) logs indicate they were notified by the Federal Aviation Administration of the events concerning AAL11.			
0840:14				AAL established radio contact with ZID. "Center, American seventy-seven with you, level three thirty (thirty-three thousand feet).
0840:16				ZID acknowledged, "American seventy-seven, Indy center, roger, squawk three-seven-four-three." (Squawk is a control instruction to change the transponder setting within the aircraft). AAL77 was subsequently instructed to climb to thirty-five thousand feet and later cleared to navigate direct to the Falmouth navigational aid. When ZID acknowledged AAL77, the sector was responsible for fourteen aircraft; additionally four aircraft were in handoff status to this sector.
0840:32		UAL175 established radio contact with ZNY. "United one-seventy-five at flight level three-one-zero."		
0840:37		ZNY acknowledged UAL 175. "United one-seventy-five, New York Center, roger."		

TIME	AMERICAN AIRLINES FLIGHT	UNITED AIRLINES FLIGHT 175	UNITED AIRLINES FLIGHT 93	AMERICAN AIRLINES FLIGHT 77
0841:00	Military Command (VACAPES) issued scramble order on AAL11.			
0841:32		UAL175 transmitted to ZNY, "We figured we'd wait to go to your center, we heard a suspicious transmission on our departure out of Boston. Someone keyed the mike (initiated radio communications) and said everyone stay in your seats."		
0841:51		ZNY replied, "okay, I'll pass that along." (The controller ensured UAL175's comments were forwarded to the Operations Manager.)		
0842:00			UAL93 began takeoff roll, runway 4 left, Newark New Jersey International Airport. All communications with EWR, with New York Departure Control, and with New York Air Route Traffic Control Center (ZNY) were routine and normal.	
0844:00	ZNY facility manager notified New York Terminal Radar Approach Control (N90) of possible hijacking of AAL11. N90 began internal coordination of the aircraft's last known altitude (twenty-nine thousand feet) and southbound course.			

TIME	AMERICAN AIRLINES FLIGHT	UNITED AIRLINES FLIGHT 175	UNITED AIRLINES FLIGHT 93	AMERICAN AIRLINES FLIGHT-77
0844:05		US Air Flight 83 transmitted to ZNY "I just picked up an ELT (emergency locator transmitter) on 121.5 (emergency VHF frequency). It was brief, but it went off."		
0844:09		ZNY acknowledged US Air Flight 83.		
0846:31	Primary radar tracking of AAL11 was lost.			
0846:35	Impact at World Trade Center.			
0846:48		UAL175's assigned transponder code of 1470 changed, first indicating 3020, then changing again to 3321. ZNY air traffic computers do not correlate either of these codes with UAL175. Consequently, the secondary radar return (transponder) indicating aircraft speed, altitude, and flight information began to coast and was no longer associated with the primary return. <i>Note: The controller communicating with UAL175 was also monitoring the flight track of AAL11. Based on coordination received from zbw indicating a possible highjacking, most of the controller's attention was focused on AAL11.</i>		

TIME	AMERICAN AIRLINES FLIGHT	UNITED AIRLINES FLIGHT 175	UNITED AIRLINES FLIGHT 93	AMERICAN AIRLINES FLIGHT 77
0850:00	Washington Operations Center activated a Tactical Net at the request of Civil Aviation Security Intelligence (ACI).			
0850:00	Newark Airport Traffic Control Tower (EWR) advised N90 of possible aircraft crash into the World Trade Center.			
0850:51				AAL77 acknowledged the clearance to Falmouth. This was the last radio communication with this flight.
0851:43		ZNY transmited to UAL175, "UAL175, recycle transponder, squawk code one four seven zero." No response was received from UAL175. The controller made several attempts, repeatedly trying to contact UAL175 for the next four minutes. During this time, the aircraft was also observed making a left turn and descending.		

TIME	AMERICAN AIRLINES FLIGHT	UNITED AIRLINES FLIGHT 175	UNITED AIRLINES FLIGHT 93	AMERICAN AIRLINES FLIGHT 77
0853:24		ZNY controller coordinated internally, asking other controllers if they saw UAL175, or if they knew who the unidentified radar target is on transponder code 3321. None of the other controllers replied in the affirmative. <i>Note: The unknown aircraft in this and all following times was later confirmed to be UAL175.</i>		
0854:43				AAL77 began a left turn towards the south without air traffic authorization. The altitude indicated thirty-five thousand feet. Shortly after the turn, the aircraft was observed descending.
0855:00		ZNY controller was busy trying to turn other aircraft away from the aircraft believed to be UAL175. The flight track of this aircraft had changed and was now headed southeast bound.		

TIME	AMERICAN AIRLINES FLIGHT	UNITED AIRLINES FLIGHT 175	UNITED AIRLINES FLIGHT 93	AMERICAN AIRLINES FLIGHT 77
0855:00		<p><i>This time is approximate based on personnel statements from ZNY. A controller-in-charge (CIC) advised the Operations Manager (OM) that she believed UAL175 was also hijacked. The OM advised the CIC that an aircraft had hit the World Trade Center. The CIC began coordinating with the controllers working position and one of the controllers stated that UAL175 appeared to heading "right towards the city." The CIC returned to the OM position and heard a request for military aircraft to scramble. UAL175 was observed in a rapid descent</i></p>		

TIME	AMERICAN AIRLINES FLIGHT	UNITED AIRLINES FLIGHT 175	UNITED AIRLINES FLIGHT 93	AMERICAN AIRLINES FLIGHT 77
0855:00		<p><i>This time is approximate based on personnel statements from ZNY. A controller working a different position within ZNY reported that two aircraft, a Delta Airlines flight was given instructions to avoid an unknown aircraft. At about the same time a US Airways flight reported taking evasive action from an unknown aircraft. The controller reported that the unknown aircraft was now headed towards New York City. This controller, along with other controllers speculated that the unknown aircraft was an emergency and was heading for an airport to land.</i></p>		
0856:19				<p>Secondary radar return (transponder) indicating aircraft speed, altitude, and flight information is lost on ZID radar displays. There was no longer any radar return information (either primary or secondary) on AAL77 indicated at the ZID radar displays.</p> <p><i>Note: The initial review of radar data, and controller personnel statements conducted by ZID did not indicate any primary or secondary radar returns were displayed.</i></p>

TIME	AMERICAN AIRLINES FLIGHT	UNITED AIRLINES FLIGHT 175	UNITED AIRLINES FLIGHT 93	AMERICAN AIRLINES FLIGHT-77
0856:32				ZID controller attempted to contact AAL77, "American seventy-seven, Indy." There was no acknowledgement. ZID also tried to communicate with AAL77 through American Airlines company radios.
0858:14				ZID also made several attempts to contact AAL77 through American Airlines company dispatch.
0859:00				ZID controllers began coordinating with other controllers to protect the airspace and altitude of AAL77's filed route of flight.
0900:00		<i>This time is approximate based on personnel statements from New York Terminal Radar Approach Control (N90). N90 controller stated "at approximately 9:00, I observed an unknown aircraft south of the Newark, New Jersey Airport, northeast bound and descending out of twelve thousand nine hundred feet in a rapid rate of descent, the radar target terminated at the World Trade Center."</i>		
0903:14		Second Impact at World Trade Center.		

TIME	AMERICAN AIRLINES FLIGHT	UNITED AIRLINES FLIGHT 175	UNITED AIRLINES FLIGHT 93	AMERICAN AIRLINES FLIGHT 77
0905:00		North East Air Defense Sector (NEADS) logs indicate they were notified by the Federal Aviation Administration of the events concerning UAL175.		
0905:00		N90 received notification from the Newark Airport Traffic Control Tower of a second aircraft striking the World Trade Center.		
0909:00			ZID notified Great Lakes Regional Operations Center a possible aircraft accident of AAL77 due to the simultaneous loss of radio communications and radar identification.	
0915:00				<i>This time is approximate based on personnel statements from ZID. The ZID Operations Manager requested that the Traffic Management personnel notify Air Force Search and Rescue of the missing and possibly downed aircraft. The Operations Manager also contacted the West Virginia State Police advising them of a possible downed aircraft and asks if they have any reports of a downed aircraft.</i>

TIME	AMERICAN AIRLINES FLIGHT	UNITED AIRLINES FLIGHT 175	UNITED AIRLINES FLIGHT 93	AMERICAN AIRLINES FLIGHT 77
0920:00				<i>This time is approximate based on personnel statements from ZID. The ZID Operations Manager contacted the Chicago Air Route Traffic Control Center (ZAU) and advised the ZAU Operations Manager of his concern that AAL77 may have been hijacked and that he (ZAU Operations Manager) should be on the look out (based on events occurring in New York).</i>
0924:00				Great Lakes Regional Operations Notified Washington Operations Center of the simultaneous loss of radio communications and radar identification.
0924:30			UAL93 established radio contact with Cleveland Air Route Traffic Control Center (ZOB), "Good morning Cleveland, United ninety-three, three-five-oh (thirty-five thousand feet), intermittent light chop." The controller was busy, the sector was responsible for sixteen aircraft. Of these, several aircraft were being issued new routes based on the events occurring on the east coast. The controller did not reply to this initial transmission.	

TIME	AMERICAN AIRLINES FLIGHT	UNITED AIRLINES FLIGHT 175	UNITED AIRLINES FLIGHT 93	AMERICAN AIRLINES FLIGHT 77
0925:00				<i>Between 0925:00 and 0930:00, this time is approximate based on personnel statements from Dulles Terminal Radar Approach Control (IAD). Several IAD controllers working radar positions in the facility observed a primary radar target tracking eastbound at a high rate of speed. Note: The unknown aircraft in this and all following times was later confirmed to be AAL77.</i>
0925:14			UAL93 again reported on ZOB frequency, "United ninety-three checking three-five-oh (thirty-five thousand feet)." The controller replied, "United ninety-three, Cleveland, roger." <i>Note: This was the third radar sector within ZOB to communicate with UAL93. The communications with the previous sectors were routine and normal.</i>	
0928:19			A radio transmission of unintelligible sounds of possible screaming or a struggle from an unknown origin was heard over the ZOB radio.	

TIME	AMERICAN AIRLINES FLIGHT	UNITED AIRLINES FLIGHT 175	UNITED AIRLINES FLIGHT 93	AMERICAN AIRLINES FLIGHT 77
0928:54			A second radio transmission, mostly unintelligible, again with sounds of possible screaming or a struggle and a statement, "get out of here, get out of here" from an unknown origin was heard over the ZOB radio. At about this same time, the ZOB controller observed that UAL93 had descended, altitude indicated thirty-four thousand, three hundred feet.	
0929:29			ZOB controller asked UAL93, "United ninety-three, verify three-five-zero (thirty-five thousand feet)." There was no reply. The ZOB controller made several attempts to contact UAL93 without receiving any acknowledgement.	
0929:50			ZOB controller began moving other aircraft away from UAL93 due to the lack of acknowledgement of any radio transmissions. Several other aircraft on the frequency confirmed unusual sounds of an unknown origin. The altitude of UAL93 again indicated thirty-five thousand feet.	

TIME	AMERICAN AIRLINES FLIGHT	UNITED AIRLINES FLIGHT 175	UNITED AIRLINES FLIGHT 93	AMERICAN AIRLINES FLIGHT 77
0931:57			A third radio transmission, mostly unintelligible, may sound like an individual out of breath, more unintelligible words and what sounds like "bomb on board" from an unknown origin was heard over the ZOB radio.	
0932:31			A fourth radio transmission stated "did you hear that transmission that reported a bomb on board?" from an unknown origin was heard over the ZOB radio.	
0933:00			<i>This time is approximate based on personnel statements from IAD. An Operations Supervisor at IAD advised the White House Office of the United States Secret Service of an unknown aircraft heading in the direction of the White House, fast moving. Meanwhile, a controller was providing the same information to controllers working at the Ronald Reagan Washington National Airport Traffic Control Tower (DCA). The IAD Operations Supervisor also provided continuous updates on a critical event teleconference established at the Federal Aviation Administration Headquarters building.</i>	

TIME	AMERICAN AIRLINES FLIGHT	UNITED AIRLINES FLIGHT 175	UNITED AIRLINES FLIGHT 93	AMERICAN AIRLINES FLIGHT 77
0933:00				<i>This time is approximate based on personnel statements from DCA. An Operations Supervisor at DCA was advised by IAD of the unknown aircraft. The Operations Supervisor at DCA immediately notified the White House Office of the United States Secret Service of the unknown aircraft's location and provided continuous updates.</i>
0934:50			ZOB controller observed that UAL93 was climbing without an air traffic control authorization. The aircraft had started a turn to the southeast, also without air traffic control authorization.	
0936:00				Personnel at DCA issued traffic advisories on the unknown aircraft to a military C130 aircraft that had departed Andrews Air Force Base. When the C130 aircraft (GOFER06) reported the unidentified aircraft in sight, the pilot was instructed to follow the unknown aircraft.
0938:00				GOFER06 reported that the unknown aircraft had crashed into the western side of the Pentagon.
0938:47			UAL93 altitude indicated forty-thousand seven hundred feet.	

TIME	AMERICAN AIRLINES FLIGHT	UNITED AIRLINES FLIGHT 175	UNITED AIRLINES FLIGHT 93	AMERICAN AIRLINES FLIGHT 77
0939:12			A fifth radio transmission, mostly unintelligible, stated words that may sound like "captain, ...bomb on board, ...our demands, ...remain quiet"	
0939:59			ZOB notified Great Lakes Regional Operations Center of the screams and statements from unknown origin, believed to be UAL93.	
0941:00			Secondary radar return (transponder) indicating aircraft speed, altitude, and flight information becomes intermittent and eventually failed on ZOB radar displays.	
0944:31			ZOB controller notified Pittsburgh Terminal Radar Approach Control (PIT) North Arrival controller of the unanticipated turn, the loss of secondary radar return and lack of radio communications with UAL93. The ZOB controller also stated that the projected flight path would result in UAL93 passing in close proximity if not directly overhead the Greater Pittsburgh International Airport.	

TIME	AMERICAN AIRLINES FLIGHT	UNITED AIRLINES FLIGHT 175	UNITED AIRLINES FLIGHT 93	AMERICAN AIRLINES FLIGHT 77
0945:00			PIT controller notified the Operations Supervisor of the events surrounding UAL93. The PIT controller also manually initiated radar tracking of the primary radar target.	
0951:00			After determination by the PIT facility manager to evacuate, the controllers have completed coordination with adjacent facilities and the PIT facility has been evacuated.	
0956:56			A small contingency of controllers (volunteers) returned to the facility and coordination with adjacent facilities pertaining to return to operational status is completed. The track of UAL93 was no longer visible on the PIT radar displays.	

TIME	AMERICAN AIRLINES FLIGHT	UNITED AIRLINES FLIGHT 175	UNITED AIRLINES FLIGHT 93	AMERICAN AIRLINES FLIGHT 77
1000:00			<p><i>This time is approximate and is based on personnel statements from ZOB.</i></p> <p>A ZOB controller's statement indicated that the pilot of a VFR aircraft reported sighting a United Airlines aircraft at approximately eight thousand feet in the vicinity of the Latrobe, Pennsylvania airport. The pilot also reported that the United Airlines aircraft's landing gear was down, the wings were rocking, and the aircraft appeared to be in distress.</p>	
1004:00			<p><i>This time is approximate and is based on personnel statements from ZOB.</i></p> <p>A ZOB controller statement indicated that UAL93's primary radar target terminated in the vicinity of Somerset, Pennsylvania.</p>	
1007:00			<p>In response to a request from a ZOB controller, N20VF, a Falcon Jet reported observing puffs of smoke in the vicinity of UAL93's last known position.</p>	

TIME	AMERICAN AIRLINES FLIGHT	UNITED AIRLINES FLIGHT 175	UNITED AIRLINES FLIGHT 93	AMERICAN AIRLINES FLIGHT '77
1041:00			<p>After receiving a telephone call from the Somerset, Pennsylvania police department stating that several "911" telephone calls had been received reporting an aircraft accident, a ZOB operations manager made official notification to Great Lakes Regional Operations Center. <i>Note: Although this is the officially documented notification time, FAA officials were aware of the accident as these events were reported as they occurred on a critical event teleconference established at the Federal Aviation Administration headquarters building.</i></p>	

Traffic in t
8:47am ET

northeast United States at

enroute FCA Tools

